



Minicam Photography

AUGUST, 1943

25 Cents



HOW THE AXIS FIGHTS WITH PHOTOS

argus

in Action



"INSEPARABLES"
CAPT. EDWARD JACQUET
U. S. AIR FORCE
and his Argus C3



"FINE WORK"

Men and women of Argus, Plant 2, Lens Division, who have just been awarded the Army-Navy "E" for fine work in vital war production in the manufacture of critical optical instruments.

"Good Pictures"

Make the best use of your present camera—learn more about lenses—films, filters and composition. Send 25c today for the 56-page booklet.

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THIS CAMERA has given very remarkable service. It has gone through twelve bombing and/or strafing raids by the Japanese but has also been on forty-three bombing raids against the enemy. Most of these raids were run from high altitudes in the Flying Fortress type of airplane at sub-zero temperatures. Naturally, the camera received a few blows here and there but stood up under the strain. The flash bulb equipment was lost and destroyed at Clark Field by fire. Bullets and shell fragments have only come close but never hit it. The camera plus a "forty-five" have been my only and constant companions during these campaigns. They were things I considered valuable during the evacuations of the Philippines and Java.

EDWARD M. JACQUET
Captain, Air Corps
(19th Bombardment Group)

argus

INTERNATIONAL INDUSTRIES, INC.



ANN ARBOR

MICHIGAN



What are good pictures made of?

THEY'RE made of sunlight and shadow, and a sky full of clouds. Of five boys in a boat, and a wind-filled sail.

And what are good enlargements made on?

Well, if you want warmth and richness, beauty of tone and sharpness of detail, they should be made on Ansco Cykora.

This popular paper offers several advantages:

1. **Balanced speed for better projection.**
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3. **Wide control in developing.**

Ansco Cykora comes in a variety of attractive surfaces and several contrast grades, which make it ideal for a wide range of subjects. Make your next enlargements on Cykora. Visit your dealer today. **Agfa Ansco, Binghamton, New York.**

Agfa Ansco Cykora Paper

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FIRST WITH THE FINEST

★ Minicam Photography

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Cover by E. Carter Perkins

Coming Next Month and Subsequent Months

DAVID O. HILL, the artist, will be the next master dealt with in the series of "Your Photographic Heritage" that began last month with Fox Talbot's basic discovery. Make photographs the way Hill did, without gadgets, flash or photo-flood bulbs, as described in this article. Study Hill's pictures, which are still considered the finest portraits made, and learn his artistry.

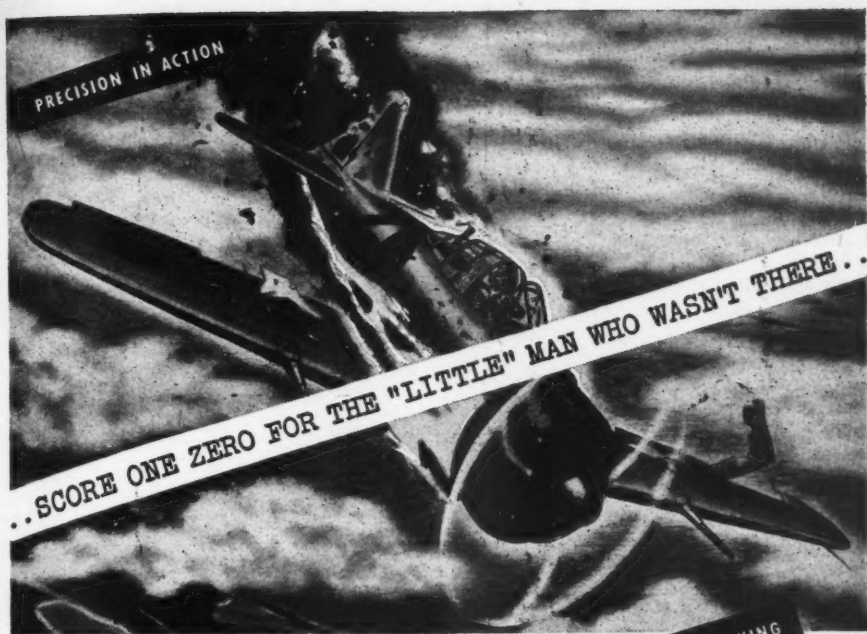
"SCOTT ARCHER'S Contribution to Photography" by A. E. Marshall will follow. Reprints of this and the Hill and Talbot articles are available to schools at 4c each.

OTHER ARTICLES coming are "Process Your Own Movie Film" by John Gaffill and "The Fundamentals of Optics," by I Clyde Cornog. Also Percival Wilde's method of "Enlarging Technique".

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Vol. 6, No. 12



HE NEVER saw a Jap plane in his life. Never handled a weapon deadlier than a BB gun. He'll never make the headlines or the history books.

But he works in a plant back home that makes precision instruments. And when the target's a Zero moving at more than 300 miles an hour, anti-aircraft marksmanship is an instrument job. Hit or miss—it depends on him!

Precision instruments count heavily in *every* action in this war, are needed in unprecedented numbers.

This is especially true of optical instruments, which Universal now makes for the Army, Navy, Marines and United Nations, in *quantity production* hitherto thought impossible where present high standards of precision are so vital.

Today, thanks largely to Universal engineering research, outstanding accuracy in lens-making is achieved more economically than ever before, anywhere in the world.

Result: A new impetus in the development of photographic and optical instruments—promise of finer-than-ever cameras available to everyone.



There's only one flag we're prouder of!

UNIVERSAL CAMERA CORPORATION

NEW YORK • CHICAGO • HOLLYWOOD

Makers of Precision Photographic and Optical Instruments • Peacetime Manufacturers of Cinémaster, Mercury, Corsair Cameras

PRECISION IN THE MAKING



TEST FOR A PERFECT MARRIAGE

A binocular is really two instruments fastened together, one for each eye. They must be exactly aligned so that both eyes can see as one. Here is one of hundreds of tests for binoculars at the Universal Camera Corporation plant—making sure that the two instruments have become one instrument of highest precision in a perfect marriage!

Winners of the Annual Art Directors' Medal for the Best Black & White Photography

1. To be a medal winner at the annual Art Directors' Show, America's ranking exhibition of outstanding advertising art and photography, is a badge of extraordinary merit. This coveted honor was bestowed on ROY PINNEY, instructor at THE SCHOOL OF MODERN PHOTOGRAPHY, and recent graduate ESTHER BUBLEY, when an Eastman Kodak double page spread featuring their photographs (see right and below) was selected as this year's (1942) gold medal winner for the best black and white photography. Roy Pinney is the second of the School's faculty to earn this important distinction. (Victor Keppler was a winner in previous years.)

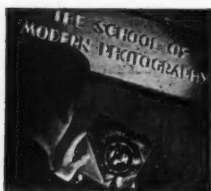


2. For Esther Bublely a 1941 graduate now doing important photographic work for the Government, this is truly a unique achievement. Like

so many of the School's other graduates, Miss Bublely's study at the School has paid her excellent dividends. The largest female enrollment in the School's history is training now to take advantage of the multiple opportunities open to women.



3. "I have taken pictures for the Navy all over the world," writes Lt. HERBERT G. ANCIN, U. S. N., in a letter dated June 12th. "In addition to battle pictures, I have also done some color portraits of our leading admirals. Needless to say, the courses I took at your School have been of inestimable value." To young men approaching draft status, the School offers a specialized basic photography course intended to help them qualify as military photographers. Day or evening courses may be started at any time.



4. What price instruction? Surprising to those interested in photography as a career or hobby is the moderate cost of instruction at New York's famed SCHOOL OF MODERN PHOTOGRAPHY, considered "America's Finest." Send for a copy of course outlines today to H. P. Sidel, director; Dept. M8,

THE SCHOOL OF MODERN PHOTOGRAPHY
136 East 57th St., New York City

The Last Word

To Heart

Sir:

I thought you might be interested in seeing the enclosed print. As you will notice we took the article in your February issue—"Home Picture Gallery in 5 Easy Steps"—by Bill Har-



vay and Jack Stanley—to heart. It was fun making the border, and the only change we made was to use 8x10 prints instead of 11x14.

Thanks for printing an article like that, and may MINICAM PHOTOGRAPHY continue to be as interesting and instructive to amateurs as it has been in the past.

Walter L. Harter

1961 Hart Street,
Bethlehem, Penna.

Sir:

I am an amateur, yet a formula "Hypo-Alum Gold Sepia Process"—appearing in the April issue of MINICAM, Page 71, seems to have an error in it.

On the Gold chloride solution you show Water 15cc Metric or 1 oz. Avoirdupois, is this right?

Also for use you say "add 1 dram (37 cc) of gold solution. How can you when you make up only 15 cc or if it is 1 oz., it is still only 30 cc. Is that correct?

George Schrader

738 N. Barry Ave.
Mamaroneck, N. Y.

• This is a clear cut case of plagiarism. The same error is to be found in the Henney-Dudley "Handbook of Photography". Ours is an improvement as we added one more error, namely 37cc for 3.7cc. The formula should read

	Metric	Avoirdupois
Gold Chloride.....	1 g	15 gr.
Water	30 cc	1 oz.

To use, add 1 dram (3.7cc.) of gold solution, etc., as per page 71, MINICAM, April.—ED.



PHOTO BY U. S. ARMY SIGNAL CORPS

Photography mirrors an America worth fighting for

A Defender advertisement dedicated to one of the freedoms for which America fights . . . and which American photographers have recorded so often with their cameras.



He was setting a burning editorial about the need for a new school when you snapped this picture of the old-time country newspaper editor. You took your negative home and developed it in Defender Chemicals . . . printed it on Defender Velour Black . . . and discovered what turned out to be one of your best pictures.

Look at that picture today . . . and you'll see it through different eyes. Here is one man . . . just one man . . . symbolizing a mighty force which, united, speaks in a voice of thunder. Berating an elected representative in his editorial columns, demanding

that something be done about a new school or praising the beauty of an autumn sunset over the reservoir, his is the voice of a free press . . . the free press for which brave men have given their lives . . . which America fights to preserve.

Defender

DEFENDER PHOTO SUPPLY CO. • ROCHESTER, N. Y.



SEE *All*

That's in Your Pictures
by Showing Them on This Finer Screen

RADIANT

PROJECTION SCREEN

You lose much of the beauty of your pictures when you show them on an old, faded, out-moded screen—or without a screen. To see *all* the detail—crystal-clear, sparkling—get a famous RADIANT “Hy-Flect” glass-beaded projection screen. Gives perfect reproduction—lifetime whiteness. Though most of our production is going to our Armed Forces, we have developed for you a complete new line—portable, table, wall and ceiling screens—made of *non-critical* materials. Ask your dealer for a RADIANT screen. *Enjoy the best!*

RADIANT MANUFACTURING CORP.
CHICAGO 32 • ILLINOIS
YOUNG, 19 YEARS-OLD IN ACHIEVEMENT

Sir:

For the last 4 years I've been reading the *MINICAM*, which I buy at the newsstand. So I am asking you to help me with the following:
In your October, 1942 issue, on page 74, is a formula for a Blue toner made from gold chloride.

Would you please advise me how to make 1% solution from 15 grains of Gold Chloride. I mean how shall I mix it. *In what amount of water?* and oblige.

S. F. Lacinski

Syracuse, N. Y.

- 4.4 grains of gold chloride to each ounce of water will make a 1% solution. Use $3\frac{3}{8}$ oz. of water for 15 grains of the gold salt.—ED.

Flat Black

Sir:

We are writing for a little information relative to a flat black paint which is suitable for the interior of enlargers. We have seen the formula somewhere but cannot locate it and thought the quickest way to obtain this information was to write to you.

R. R. KRAMMES,
The Ohio Power Co.,
Canton, Ohio.

- Alcohol, 8 oz.; Lamp Black, $\frac{1}{2}$ oz.; Shellac, 1 oz. Blackboard paint also makes a good flat-black.—ED.

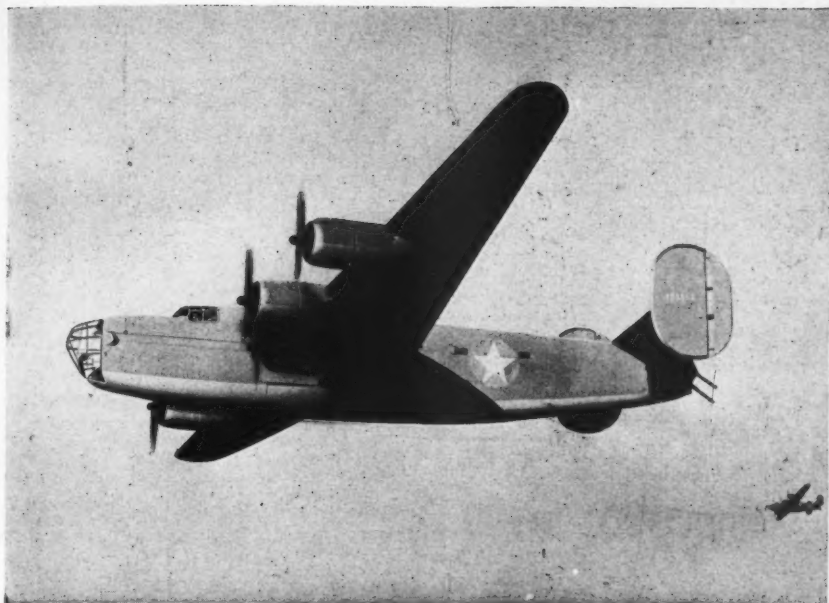
Before Talbot

Sir:

Didn't a German invent photography a hundred years before Fox Talbot? Your series about our “cultural photographic heritage” is OK. I intend to perform the experiment of Talbot's and if he made the pictures you showed with *that* kind of material, he was a genius.

BUD O'DONNELL,
Hartford, Conn.

- He was. The German you mention is Johann Heinrich Schulze whose classic experiment was made in 1727. Into a glass flask, Schulze poured a mixture of chalk, silver and nitric acid. After thorough shaking, the silver and acid combined to form silver nitrate. When held in the sunlight, the substance changed from white to deep purple. Exposure to the heat of a furnace produced no such change, and Schulze deduced that the reaction must have been caused by the sun's light rather than by its heat. To prove his deduction he pasted stencils of opaque paper on the flask. After exposure to light the stencil was carefully removed, and the writing which had been cut out of the paper to form the stencil was clearly visible on the surface of the mixture within the flask, traced in the dark color of metallic silver. Talbot, who was acquainted with HIS cultural photographic heritage knew of Schulze's experiment and that is why Talbot chose to work with silver nitrate. Schulze, you might say, made the first photograph, but it was a fleeting one, on a fluid.—ED.



Though these American bombers have never been "over" the enemy objectives ahead they "know" that 200 yards beyond the power stations lie the airfields and one-half mile to the left, ammunition and supply depots

• They "know" — for yesterday reconnaissance planes recorded this vital information on film • They "know" — because photographic chemicals, designed specifically for use in this theatre of war, revealed clearly and accurately the details that formed the pattern for today's action •

FR • Fink-Roselieve is proud to be producing these "chemical bomb sights". In addition to preparing formulas for the U. S. Army Air Force F-R, with expanded facilities, is producing chemicals and other materials for the U. S. Army Signal and U. S. Army Medical Corps as well as the U. S. Navy and U. S. Marines.

NEW YORK: 109 WEST 44 STREET

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Roselieve
 COMPANY, INC.

CHICAGO: THE MERCHANDISE MART

KEEP ON BUYING MORE AND MORE U. S. WAR BONDS AND STAMPS

In the "HEART" of Summer

THESE TWO AIDS WILL GREATLY ENHANCE THE APPEARANCE OF YOUR PRINTS AND NEGATIVES!



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KIT

The complete dye-retouching kit for prints and negatives . . . general or local

bleaching . . . masking for vignetting or complete or partial background removal. Eliminates the old-fashioned methods of pencil retouching . . . gives you cleaner, smoother, more beautiful and lasting job. No experience necessary to work with RETOUCH-ALL . . . just wet your brush and begin!

- 1-oz. Concentrated Blue-Black Retouching Dye
- 1-oz. Concentrated Warm-Black Retouching Dye
- 1-oz. Concentrated Sepia Retouching Dye
- 1-oz. Wondrop Concentrated Wetting Agent
- 1-oz. Correctol • 1-oz. Masking Fluid
- 12 Lintless Blotters, Brush, Cotton Sticks, Dropper

ALL FOR
\$3.50

Plus—FREE—a copy of the brand new booklet, "Manual of Dye Retouching," by A. J. Lockrey. Contains complete information about the remarkable new method of "retouching with dye" in all its phases. The material contained in this book alone is worth practically the purchase price of the entire RETOUCH-ALL KIT.

WONDROP

.. an aid to summer photography

When summer humidity is high, the film dries more slowly than usual, many times causing stains, water spots, excessive grain. WONDROP cuts drying time by 50%, thus reducing the possibility of grainy negatives. WONDROP is the concentrated wetting agent for all photographic solutions and operations dealing with fixing, toning, reducing, intensifying, coloring, opaquing, spotting and retouching. Use just one drop for each 8 ounces of solution. 60¢ for 2 fluid ounces, or 1000 drops. \$1.00 for 4-oz. bottle.



At your dealer's or order direct

AMERICAN BOLEX CO., INC.
155 East 44th Street • New York City

More About Squirrels

Sirs:

I do not agree with the line—Patience is the first requirement. I think it should be—A good stuffed squirrel is the first requirement.

I do not hope that Mr. Keppler wanted to get credit for that picture as one of a live squirrel.

I have a tame squirrel which will allow you to do almost anything with it, but even Keppler isn't a good enough photographer to get proper lighting, pose, etc., on any squirrel, unless it is stuffed like the one in his picture.

If Mr. Keppler is interested in buying live squirrels to photograph I will be glad to train one for him.

F. GILBERT FARRELL,
Wayne, Pa.

A Dead Duck (we mean squirrel)

Dear Sir:

What do you mean by intimating in your caption under Victor Keppler's portrait of a squirrel in the May issue that patience is required to get a shot like that? That took no patience! That squirrel, a none too good example of the taxidermist's art, is sitting as still today as it sat the day Keppler shot it, and it will go on sitting in that frozen, unsquirrel-like attitude until the moths get it.

Mr. Keppler ought to be spanked.

(Miss) Rosamond McPherson

Dayton, Ohio.

Oops, Sorry

Sir:

Vic Keppler's "sportsman's shot" of a squirrel was probably made after another sportsman had shot it through and through. Who wants pics of dead animals? Not I, said the sparrow.

CONSTANT READER,
Rhode Island.

"Far be it from me to try to put anything over on a MINICAM reader. The mounted squirrel I photographed is a Museum of Natural History exhibit.

"If my article had been longer, I would have explained at length that shooting museum exhibits is a pet hobby of mine. (No pun intended.) A color shot I made of a fly at the same museum won me the Gold Medal at the Art Director's Show last year. I didn't include the museum angle because few amateurs have the necessary equipment for such shots.

"If you have the lights, may I suggest that you arrange to shoot some of these exhibits yourself. I'll bet you'll share my hobby, if you try it once."—Vic Keppler.

Celia and Circumlocution

Sir:

Will you put in plain English what they mean by depth of focus.

CELIA JOAN ALLEN,
New York City.

• The distance between the nearest and the farthest objects which are sharply reproduced is called the depth of focus.—ED.



Sam Goldstein, DVP
covering North Africa
for the Still Photo-
graphy Pool

What are flash bulbs doing in this war? Well, here's a story from the experience of Sam Goldstein, INP representative covering the North African War for the still photography pool.

"Brand new, our troopship was approaching one of the Mediterranean invasion points at dawn. When WHAM! A torpedo hit us! I left my personal belongings and grabbed my Speed Graphic case, shoving a handful of 5's into my pocket. I ran for the side where the landing net was. I clambered

over the rail, and, holding onto the net with one hand, I began to shoot pictures of the soldiers climbing down to the assault boats below. Thanks to the compactness of Midget No. 5's, I had a whole pocketful of better picture possibilities."

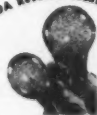
Helping press and military photographers overseas is only one of many ways G-E MAZDA Photoflash lamps serve in this war. They're also aiding the press and Army and Navy men at home.

Listen to the General Electric MAZDA Lamp Hour of Charm, Sunday, 10 P. M. EWT, over NBC and to the World Today, weekdays, 6:45 P. M. EWT, over CBS

G-E MAZDA PHOTOFLASH LAMPS

GENERAL  ELECTRIC

MAZDA Research leads the way



INVEST IN YOUR COUNTRY'S FUTURE . . . WHY NOT BUY AN EXTRA WAR BOND THIS MONTH?



This picture won first prize recently for Miss Herrick in the Junior League's "America at War" exhibit.

One of Miss Herrick's FIRST prize-winners. Exhibited at the Cleveland Museum of Art, it was quickly sold.

"I Won My First Prize— Sold My First Pictures—"

*A Few Months After
Enrolling for N. Y. I.
Training"*

By Josephine Ursula
HERRICK

Partner in the Famed Braganca-
Herrick Portrait Studio,
Organizer and Director of New
York's A. W. V. S. War Service
Photographic Division.



"Although photography had been my hobby for some time, I wasn't satisfied with my progress. Finally deciding that I needed professional training, I enrolled for the N. Y. I. Course.

"What a difference the interested, personal instruction of N. Y. I.'s experts made! Within a few months, some of my prints were exhibited at the Cleveland Museum of Art. Even more gratifying, my photographs actually started to sell.

Opens Portrait Studio

"After I completed my course, I taught photography. Then, with Princess Braganca, opened the Braganca-Herrick Portrait Studio. Our venture was successful from the start.

Organizes A. W. V. S. Photographic Service

"But when war broke out in Europe, I volunteered to teach for the American Women's Voluntary Services, writing the outline and text material for their course in war photography. This led to the organization of the War Service Photography Division. When it was decided to give an Advanced Course, I promptly asked New York Institute to help and they gave it generously.

"The success I have achieved in photography goes right back to my own N. Y. I. Course."

N. Y. I. Graduates Winning Success in Every Phase of Photography

Miss Herrick is typical of hundreds of top-notch photographers whose FIRST STEP toward their present success was enrolling at N. Y. I. The opportunities for YOU today are greater than ever. At N. Y. I. you have your choice of resident or spare time home study instruction—both under the personal supervision of our photographic experts. There are no classes. You can start now. Courses in Commercial Advertising, News, Portrait, Motion Picture and COLOR Photography. Also short 7, 10, 14-day resident courses. Write TODAY for FREE book: "Photography for Pleasure or Career." New York Institute of Photography, Dept. 117, 10 West 33 St., New York 1, N. Y. Training Men and Women for Photographic Success Since 1910.

*From an interview with Miss Herrick, June 1st, 1943

33rd
YEAR

NEW YORK INSTITUTE OF PHOTOGRAPHY.
Dept. 117, 10 West 33 St., New York 1, N. Y.

Gentlemen:—Please send me your FREE catalog. It is understood that no salesman will call.

Name

Address

City..... State.....

() Check here if interested in special, short 7, 10 or 14-day resident courses.

Memories of a Venetian Blind

Sir:

Who the hell wants to photograph insects? They crawl around my basement-office floor and I step on them.

But the little lecture by Peabody hits the spot. I have been in only two salons and am interested in appearing in more if I can . . . more so than any other one thing. I submitted to three salons during the past season, but made only one with one of my four prints. The author of this piece tells me that the very thing I am trying hardest to do is just what I shouldn't do, and my thanks to him for his words from experience.

Last Sunday I made a geometric design study of a Venetian blind with the morning sun shining through it and thought I had a masterpiece; now I realize that I was merely imitating some of the freaks I had seen in the albums. I intend to exhibit one of the prints I made, nevertheless; it is nothing but a design in light and shadow, but good composition. (I hope.)

When Peabody extols the value of creative vision and originality, he is asking for the rarest and highest qualities in the human spirit, and they have their value in life as well as in any art, and only one person in one thousand really possesses these qualities in any marked degree. His article is of exceptional interest to every photographer who thinks he is passing the snapshot stage and is interested in taking pictures that photographers will admire.

I live in the Southwest and am trying to plan a two weeks' vacation in Santa Fe, right in the midst of the scenes pictured in your Candelario photographs. A very fine lot of prints, by the way, though I wish the author had struggled less to write up his subject and give a little more technical data. His pictures tell his story so well that his literary style is not necessary.

THOMAS H. UZZELL,
Stillwater, Okla.

Hold That Slow Pan

Sir:

Here is a tip I pass along with my compliments: use it, or the idea, however you please, if it appeals to you—

In view of film shortage, and the difficulty the bulk distributors in Hollywood and elsewhere experience in supplying customers, don't use your dwindling stock of slow pan for black and white copying, save it for colored copy.

For black and white, either line or continuous tone, get positive stock, which several MINICAM advertisers offer at from \$1.25 to \$1.50 per 100 feet, and at slightly higher rates per foot in 25 feet lots.

This color-blind film has a speed of about Weston 1.5, when used with ordinary Mazdas; base exposure on white-card reading. Develop in tank of D-76, 4 min. at 70 deg. F. Short lengths can be sec-sawed in a tray, and of course inspected by orange or red safe-light. For line copy, D-11 is recommended, but D-72, 1:2, as for Kodabromide & Velox, gives good contrast.

Did you ever lend someone a strip of 35mm.
(Continued on page 81)



OFFICIAL U. S. ARMY AIR CORPS PHOTO
 Portable photographic laboratory. In time of battle, U. S. Army planes take pictures, develop them in the plane, and then drop them over a field headquarters, for the use of the commanding officer. In World War II, it would be many hours before generals got photos they wanted of enemy territory.

Now Serving Uncle Sam... The New... High Speed RAPAX SHUTTER

★ NEW SETTING TYPE SHUTTER ★ ACCURATE EXPOSURES TO 1/400 SECOND
 HERE'S A BETTER SHUTTER FOR YOUR CAMERA AFTER THE WAR

● The new Wollensak Rapax shutter has been developed after many years of research in high speed shutter design. The Rapax not only gives high speed exposures... it gives accurate exposures from 1 full second to 1/400 second; and it can be used with practically all flash synchronizers.

NEW TYPE BLADE ARRESTOR

- One of the important features of the Rapax shutter is the Blade Arrestor Device. This special new type Blade Arrestor was devised to eliminate the use of a spring control—making possible extreme speed and exceptionally accurate exposures with the Rapax.
- After the War the Rapax will be available in several sizes to fit all popular focal length lenses.
- This is but one of many fine Wollensak products now being developed for you.



Wollensak

ROCHESTER, U. S. A.

How the Axis Fights with

Photos



Guns and bread and butter are half the fight; words and photographic prints are the other. Here is how the Axis tries to soften and divide other peoples.

As a photographer, it is easier for you to read a photograph objectively, and to estimate its intended effectiveness. The Axis will try to invade our minds while they fight us, even when they try to make peace with us.

→
LE SIGNAL, printed in 17 languages, is distributed in conquered and neutral countries. By filching copies, our own O. W. I. learns the current Nazi propaganda line, which varies with its future plans, fears, hopes.

WHY did Russia fight from street to street, and house to house—while France did not? Their people are the same people as you and I; yet one dug in, and the other gave in.

Little club-footed Goebbles broke the spirit of Hitler's victims with devilishly insidious propaganda. By learning his technique, we are doubly armed.

THE NAZIS fake an issue of the London "Evening Standard" and drop it over the English countryside. All the photographs are fakes, and, of course, so is the news. Thus, Germany tried to soften England in the days when the Blitz went from right to left.

→





Wache an der Kanaltufts

BY OUR ENEMY

PICTORIALISM, TOO, is used by the Axis to fight their war. This diffused focus print from an enemy source is intended to convey the idea to German readers that they are secure behind the walls of Festung Europa. Sent through neutral channels to England and America it is intended to intimidate the Allies. It didn't.

For the Home Front

Ersatz Food—



DAILY, THE Russian radio grinds out names of Hitlerites killed, maimed and captured. A voice recording repeats the list endlessly. Five million names have thus been read into the ether. But Germans may not listen to foreign programs. For them, Goebbels has different fare.

ARE CLOTHES scarce at home? Bide a while, my friends, says Hitler's newspaper, see how our German soldiers buy the best of everything in Rumania with money that we print (*see picture, left*). Soon, continues the editorial, all this will be ours, soldiers and civilians alike. Have patience, asks the *Zeitung*, "wear cardboard shoes this winter."

Beer is scarce, for Germany needs the alcohol for war. But our soldiers in Paris have champagne (*see picture lower left*). There is more of it than they can carry.

DO YOU REMEMBER—do you remember when we last ate a good hot thick soup, with meat and cabbage? Soon, we shall have it again in great quantities, and served to us by peasants, by Ukrainian peasants, just as we see it in this photograph—thus sings the *Zeitung*.



How to Spot a

Fake Photo



INTENDED to show how German occupation of Norway is handled in a kindly way, this picture backfired. (Norwegians turned their backs to the German soldiers and pretend to be window shopping.)

THE Berlin Technological Institute teaches its photographic students how to wage psychological warfare. Boiled down to hard facts, the curriculum is

"HOW TO LIE WITH PHOTOS"

IN THE OFFENSE—"Lie to your strong enemies by telling them you are weak. Lull them into security

"Lie to your weak enemies by overplaying your own strength to intimidate them.

(Continued to page 19)

BY "BLOWING-UP" crowd pictures of scenes shipped here by German agents to show happy stalwarts heiling the Reich, American editors exposed German propaganda prints. This hausfrau was a tiny dot on a sharp print. Enlargement added meaning to her outstretched arm.



PROPAGANDA pictures, when they are bad, are very bad indeed. This was supposed to show how the Russians, those ungentlemanly fellows, hid in their houses and fired on Germans at Stalingrad. A fake because (1) the soldiers carry no guns; (2) in the background a soldier is resting, something no street fighter under such conditions could afford to do.



Rewards to the

Conquered



WHEN Nazis entered Paris, these posters papered the city.

ORDERED PUBLISHED in all French newspapers was this clumsy propaganda idea of mutual respect, showing German officer saluting French policeman before Arc de Triomphe, Paris.



SHORTLY AFTER THEIR CONQUEST OF FRANCE, THE GERMANS TREATED THE POPULATION WITH KID GLOVES TO EASE IN THE "NEW ORDER" AND STIFLE THE PATRIOTS.

PICTURES of German soldiers feeding French children went to countries on Hitler's "next victim" list.



TO CREATE the impression of German soldiers interested in French culture, this picture of Germans buying books at a Seine book store appeared in the French edition of *Le Signal*. ▼



The German Version of *Divide and Rule*

GOEBBEL'S greatest propaganda triumph was the wedge he drove between Britain and France in the first few months of the war. Says the British officer: "Waiter, turn those Poilus out. There's plenty of room in the trenches."



(Continued from page 17)

"Lie to your own people by telling them success is a foregone conclusion. When the going is tough, arouse their greed by promising them the fruits of victory."

"IN THE DEFENSE"

"Try to gain time. Overplay your strength so as to keep your enemy from making full use of a once-gained advantage."

Students of the photographic psychological warfare were shown that when the picture is not readily available, it can be posed. To demonstrate how this can be

achieved, either by trickery or threats, whole fake front villages with models as the "foreign-speaking populations" were built up for the Berlin Technological Institute students to practice their problems.

One problem the students were given, for instance, was to secure a picture from "enemy territory," in which the population "welcomed" the liberators. Its solution, a typical Nazi fake. A number of German staff cars with loudspeakers and cameras, with monocled officers, accompanied by SS motorcyclists, drove into the

NAZI propaganda from Spain. Members of the Spanish Blue Division (a Fascist organization) were dressed up in German uniforms and marched off to fight der bogie man, Russia, with Spanish colors on the side of their helmets. In Spain, *Le Signal* used this in color.



The Return of the

Native—

fake front village. The cyclists dismounted, called the population together and herded them into the village square! The leader of the German caravan, a haughty-looking Prussian, got up in his car and began reading an important-looking proclamation with many "Verbotens" and "Todesstrafes" in the German language. Suddenly he interrupted himself and in the language of the country demanded: "Anyone who does not understand German, lift his right hand." That was what the camera crews in the cars were waiting for. They got to work at once and shot the scene for pictures they could label: "The population of a conquered city welcomes the German army by spontaneously giving the Hitler salute." This class room exercise was worked again and again in the whole sorry line-up of devastated countries.

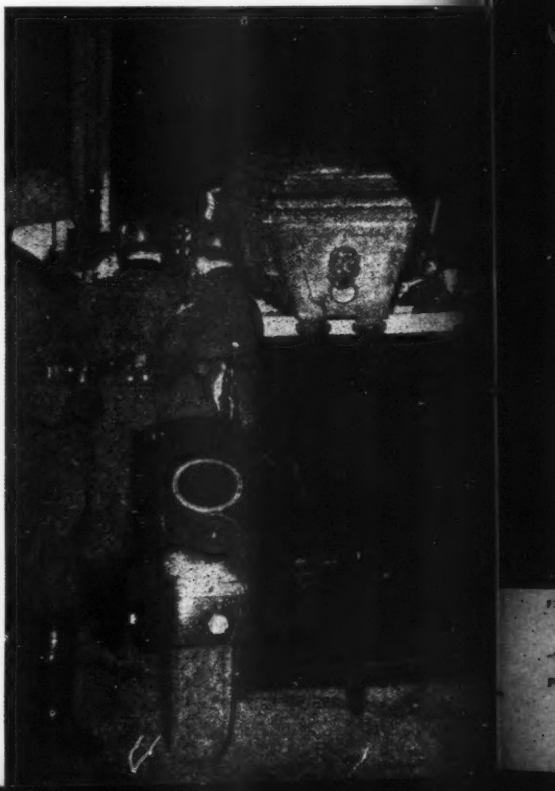
The laboratory tests of the German propaganda machine have found application on the field of battle. Borders have been trampled down, treaties torn up, Governments exiled and millions of people uprooted and killed. Everyone of these acts was accompanied by the publication of photographs that assiduously distorted the facts and these were fed to the press in every country.


AS THE tri-color atop the French spine swayed uneasily, weakened by systematic propaganda, the Nazis pulled all the stops, and out rolled L'Aiglon, the son of Napoleon Bonaparte. His body had been interned in Austria where for generations it had been kept, preventing it from being a rallying point, and a symbol of once great French power. But with France prostrate it was returned.

HOW do purposeful propaganda pictures find their way into loyal American newspapers? Every once in awhile your daily paper uses a photograph showing German bunkers, gun-implacements, mobile AA guns or heavy railway guns. For just this devious purpose these pictures were published in a German magazine, which in turn was shipped to Lisbon, Zurich or Stockholm, whence it reached this country and as foreign news, was picked up by the American press.

Nazi censors have no reason for divulg-

(Continued on page 98)





AMERICA, TOO, fights with pictures. The best photographic brains in the country help William M. Nelson (O. W. I.), and Lt. Commander Edward J. Steichen (Navy Department), create pictures that build up America's enthusiasm for Victory; and relay, by photograph, to enemy occupied territory that free men will come to set you free.



ALL THAT WE CAN HOPE TO FIND

By Leon Cantrell.

Some landscapes are cluttered and pointless; others are composed and sharp. One man patiently finds beauty and meaning; you can do so, too.

THE photographer who also loves Nature has a talisman protecting him from the worst that wars, depressions and nerves can do to him. His life is freer, fuller than it would be otherwise.

I am a commercial photographer with a Nashville engraving plant and call scenic photography my hobby. My pictures are made on week ends and vacation trips, and all fans know how I look forward to them.


To me there is no more fascinating work than the picturing of Mother Nature in her subtleties. Anyone who likes the great out of doors and revels in Na-

ture's handiwork, lives a different life.

You can't always find scenics riding along the highway, either. Turn off on some dusty side road or get out and walk a while. (This will make your A card go further.) Scenes are in the least expected places, and by looking you develop your scenic eye, though you may not recognize good material at first. Your scenic eye will develop. Sometimes this is evolved simply by looking at a single scenic object that attracts you. This may be a gnarled tree, a sunset, a row of corn shocks, or a mountain. After you have found this one feature, make it your center of interest by selecting a viewpoint in



ROAD ON THE GREAT SMOKY MOUNTAINS was taken at $1/25$ of a second at $f/22$ with a K-2 filter, on Panatomic-X film. It might have been made successfully a dozen different ways . . . Plus-X with an "A" filter, $1/10$ at $f/16$; on infra-red with red filter, being two of the possibilities. But what Leon Cantrell brought to this picture was the thought of a road over the bridge leading up the mountains to the glory of the clouds beyond.



which the surrounding elements combine to make it more interesting and attractive. Learn to look for simple compositions with interesting foregrounds.

Study the published works of famous scenic photographers like John Kabel, Edward Weston, and learn what constitutes good scenic photographs. And if possible, visit places in which you will most likely find the particular type of scenic beauty that stirs you.

Keep your eyes open and have patience. Waiting, while Mother Nature changes her clouds or lighting, will often be the making of a better picture.

The final step in getting the best of each scene depends on personal ability. This includes the selection of the angle and knowledge of composition. Most scenic photos owe their success to the unusual manner in which the photographer composed the material at hand.

AT SUNDOWN was given a little interest by a striped bass that came to the surface, and broke water. I had been sitting there a while watching the trees grow black as the sun went down. Taken on Panatomic-X, 1/10 second at f32, with a G filter.

In arranging your composition, study the scene for the best shape, whether vertical or horizontal. Study the lighting, as lighting produces form and texture. Try to be original but remember the old rule and do not have the horizon line in the center. Put it either above or below, according to your subject matter.

From experience, I find the best camera for scenic photography to be one that has a ground glass. Subject and composition can be studied up until the exposure, and any changes brought by raising or lowering the camera can be noted immediately.

Unless you are looking for trouble,



SUNSET

1/10 second, f/32, G filter.

learn to use only one or two types of films. You'll save more and learn quicker by standardizing your material and equipment.

The two films I like best are Panatomic-

X for my 5x7 View Camera and Super-XX for my Graflex. Exposures vary according to lighting conditions. My average exposures in good lighting are a 10th

(Continued on page 95)

How to make ● A BULK

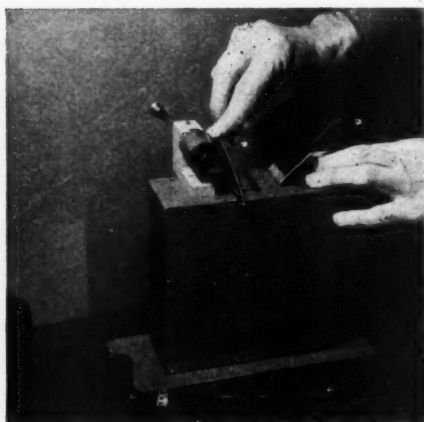
By Walter E. Burton

IF YOU load your 35mm. film spools or magazines from bulk rolls, a film loader, easily assembled from odds and ends, serves as a storage place for 50 feet or more of film, and can be built with a spool crank or winder, film cutter, and end-trimming template.

The box and base are made up of pieces of $\frac{3}{4}$ " and $\frac{1}{4}$ " or similar wood, as shown in Fig. 1. These include:

- 1 piece $\frac{3}{4}$ "x2"x6", for the top.
- 2 pieces $\frac{3}{4}$ "x 2"x 5 $\frac{1}{4}$ ", for sides.
- 1 piece $\frac{1}{4}$ "x 2"x 4 $\frac{1}{2}$ ", for bottom of box.
- 2 pieces $\frac{1}{4}$ "x 6"x 6", for front and back panels.
- 2 pieces $\frac{1}{8}$ " to $\frac{1}{4}$ "x 4 $\frac{1}{4}$ "x 4 $\frac{1}{4}$ ", for front and back "inner panels."
- 1 piece $\frac{1}{4}$ " to $\frac{1}{2}$ "x 3"x 9", for base.

A BULK FILM loader that you can make yourself. This shows interior of the loader when the roll of film is not in a separate can.

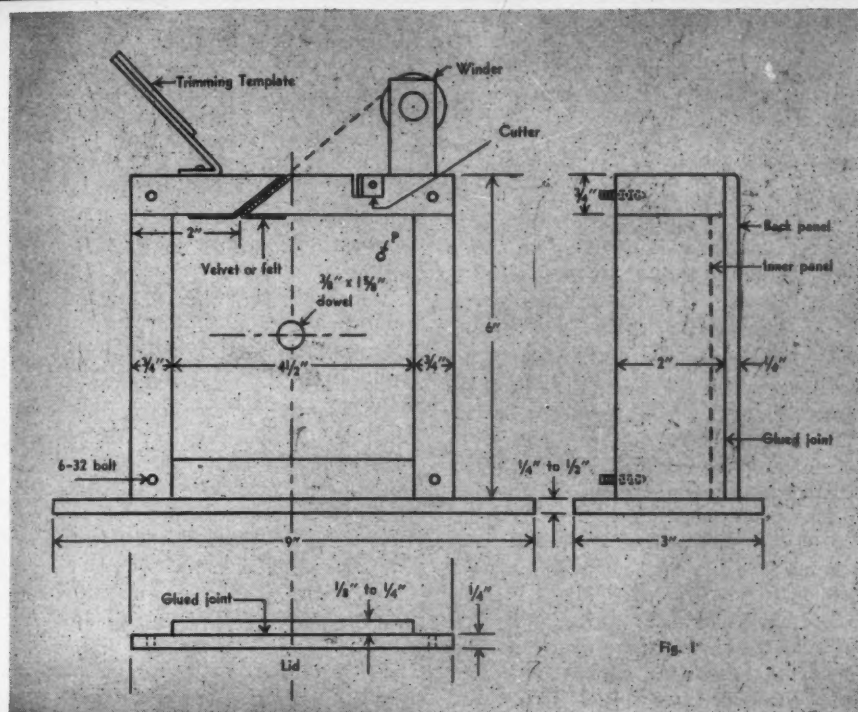


CUTTING the film with the built-in "snipper". With the lights out, the film is loaded and cut, and the spool inserted into its magazine. The magazine is closed with a couple of inches of film projecting, and then the lights can be turned on.



THE COVER or lid is held in place by four knurled nuts. The nuts are on headless bolts that project from the wood. Such bolts (6-32 is about the right size) are easily screwed into drilled holes as shown. Paint inside dull black.

FILM LOADER

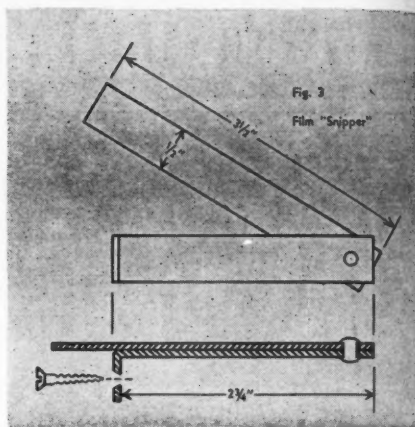
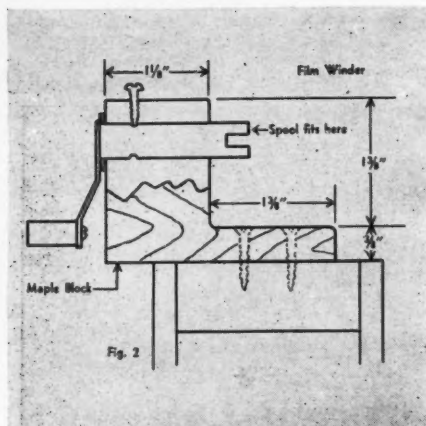


AN OPTIONAL arrangement is to place the film in a metal can equipped with a light-tight slot. Note the notching of the can lid. To change from one kind of film to another, simply interchange cans. A lug prevents can from moving while film is withdrawn.

Fasten all joints with glue and nails, to make them light-tight. Fasten the back panel and its inner panel permanently in position. Fasten the front panel and its inner panel together, but arrange them so they will function as a removable lid that is held in position by four knurled nuts on 6-32 or similar bolts set into the edges of the $\frac{3}{4}$ -in. pieces, as shown in Fig. 1.

Before assembling the parts, cut a film slot in the top piece. This runs at an angle of about 50 degrees, and should be wide enough to permit two thicknesses of black velvet or felt to be installed as a light seal.

There are two ways of arranging the film inside the box. The simpler is to install a central peg, which may be made

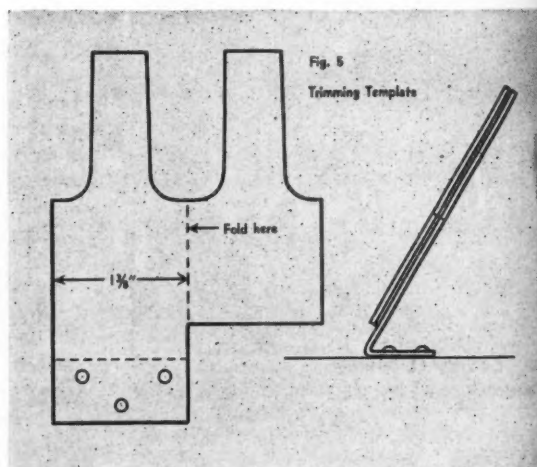
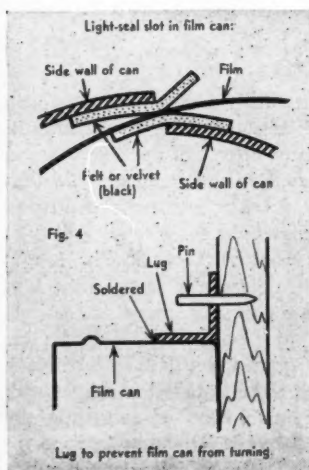


from a piece of $\frac{3}{8}$ -in. wooden dowel, in the center. Simply bore a $\frac{3}{8}$ -in. hole almost through the back panel and its inner panel, and glue the dowel in it. It is a good idea to make a sleeve of paper or metal to slip over the dowel, so the film will have no chance to bind; the sleeve should, of course, rotate freely on the peg. The inside of the box should be painted a dull black, to minimize light reflected should any leakage of light occur.

The second way of arranging the film is to adapt a standard metal film box to serve as an inner magazine. To do this, make a slit in the side of the box and spread it enough to receive two thicknesses

of black felt or velvet. Cement portions of these pieces to the metal, letting the remainder project, as shown in Fig. 4. The film moves between the pieces. (Household cement such as DuPont's or Testor's may be used for fastening the pieces.) Notch the film can lid and spread the notch apart so the lid will fit snugly in place. A portion of the felt or velvet piece that is cemented to the outside surface of the can may have to be lifted a little, to permit the edge of the lid to slip into place. Of course, the light-seal material should be placed so no leakage occurs.

To prevent the film can from rattling around inside the loader, solder a small



metal tab or lug to the side, even with the bottom surface, and drill a hole so the lug will slip over the pin "P" in Fig. 1. The can rests against the bottom and one side of the loader compartment, the lug preventing it from turning. The film slot is positioned in line with the slot in the loader box, as shown in one of the photographs.

This film-can arrangement is desirable when two or more kinds of film are to be handled intermittently. It is a simple matter to remove one can of film and replace it with another. The joint around the lid of each can should be sealed in the customary manner with adhesive tape.

The winder consists of a length of $\frac{3}{8}$ -in. metal tube fitted with a crank and rotating in a hole in a maple block. A wood screw, whose tip rests in a groove filed around the tube, prevents the tube from dropping out of the hole. The crank is soldered to the tube end. Tubes of this size are often used in electrical fixtures. Slot the outer end to fit in the film spool. The slot provides a little springiness that insures a snug fit. If your spool has a different sized hole, use a tube or slotted rod that will fit it.

An easy way of cutting the film when the spool has been filled is to use a pair of scissors or a sharp knife. In Fig. 3 is shown a simple cutter that can be made from pieces of hacksaw blade or similar steel. It is installed in a notch sawed in the top of the loader to a depth of about $\frac{3}{8}$ in. The loader lid may be notched to permit the blade to come all the way down, if desired. Mortise the edge of the loader top to receive the bent-over portion of the lower blade. A cutter of this type may be made from an old desk lid slide or bracket, but such steel cannot be hardened, and must be sharpened frequently with a file.

The film-trimming template may be made from tinplate, but sheet brass or aluminum would be better. Shape it to match the spool and camera you are using. That shown is for a Contax spool. Mount the template in some convenient position atop the loader, or attach it to the box



with a short length of chain or cord. To trim an end, slip the film into the slot between the "leaves," squeeze the leaves together to grip the film, and use a sharp knife to cut away projecting portions of film.

To use this loader, pull out enough film to permit trimming and starting on the spool. Then take the loader into a dark room, or turn out the lights, and wind the spool full. A trial will show you how many crank turns are necessary to fill the spool to capacity: a Contax spool requires about 40, for DuPont Superior film. Cut the film and insert the spool into its magazine. Close the magazine, leaving a couple of inches of film projecting, and turn on the lights. Finally, trim the projecting end to fit the camera take-up spool.

CANDLES

give a mellow light

SEVEN candles were used to make this portrait. The soft lighting reduces need for retouching. Our model (yours too?) could not endure photoflood, so candle-light was a gift from heaven.

By **RENE W. P. LEONHARDT**

MELLOW candlelight softens studies and diffuses defects of the skin. Generally half a dozen candles are sufficient for a portrait. Unlimited numbers can be used if care is exercised.

Since candles are of relatively small power, their arrangement is of great importance to the final effect. A three or four step kitchen ladder, placed on the table, makes an ideal light stand, adjustable to different heights. Set up at a distance two to four feet from the model, use exposures from $\frac{1}{2}$ to 1 second with a lens aperture of $f/3.5$ or $f/4.5$.

Many possibilities will open, once the photographer has passed the first experimental stage. Fanning the flames makes the lights flicker, producing a softer, more diffused outline and finer transition from light to shadow. With the help of mirrors we distill the power of the candles, create spot-light effects and

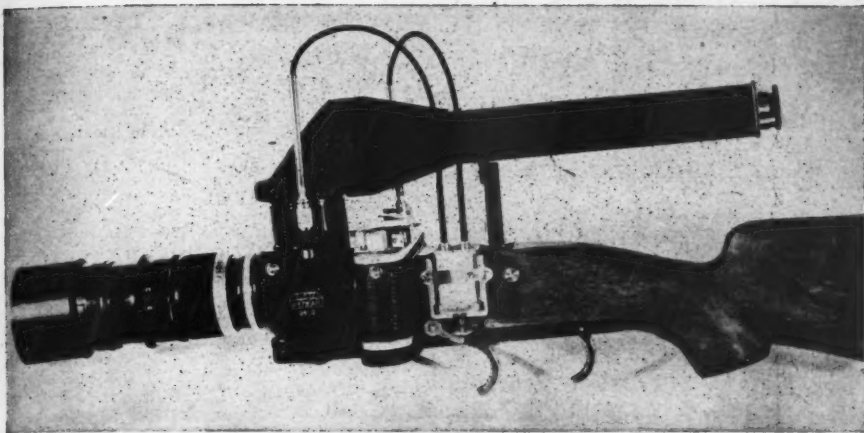
brighten up surfaces. Cardboard or bed-sheet reflectors can be used.

I remember once taking pictures in the famous Indian shrine of Chichicastenango in Guatemala, where shooting with flashbulbs or any light source is against the rule of the church. Using flash devices may lead to dangerous incidents, because the Indians might smash cameras or threaten intruding photographers with violence. The only available light sources are candles on the altar, brought in by the natives. They are enough for a time-exposure and furnished the atmosphere for one of my exhibition prints.

One of the fine arts of the professional model is to look unblinkingly at flash and flood, but the model selected from folks at home is gripped by the well known onion eye when the lights flare up. Candle lighting permits the home model to relax into an unstrained expression.

MIRRORS placed behind candles will reflect light, which can be directed to brighten any spot. The candles may be placed on a ladder so their position may easily be shifted. It is a good idea to use a lens shade.





CAMERA GUN that patrol units can use successfully. Training to use this equipment can be effected in 30 days.

★CAMERA for Reconnaissance

THIS MINICAM is ideally suited for reconnaissance and every division commander should have patrols trained to enhance mission reports with pictures. Ground forces are inadequately camera equipped.

By **CAPTAIN PRENTICE G. MORGAN,**
ARMORED FORCE

EVERYONE is aware of the value of the aerial camera, but there has been little if any thought of using the camera as a tactical instrument by the ground forces. In an armored division, for example, one camera is allocated to the Engineer Battalion. It is an excellent instrument for press work, but too cumbersome and bulky to be considered for efficient use in the field.

The ideal camera for use in the field is the 35mm or miniature camera. In a compact package weighing little more than a pound, we have a precision instrument capable of recording an endless series of pictorial records of anything which a man can approach in daylight. Details of terrain, of bridges, roads, fords and any other military features are open to its instantaneous sight and permanent memory. Equipped with a telephoto lens it is capable of peering into enemy territory with a sight many times more power-

ful than the standard EE field glass or of exploring a feature of terrain too far off the route of reconnaissance to justify the sending of a patrol. And all this may be done in a fraction of the time necessary for a reconnaissance agent to get out his sketching materials.

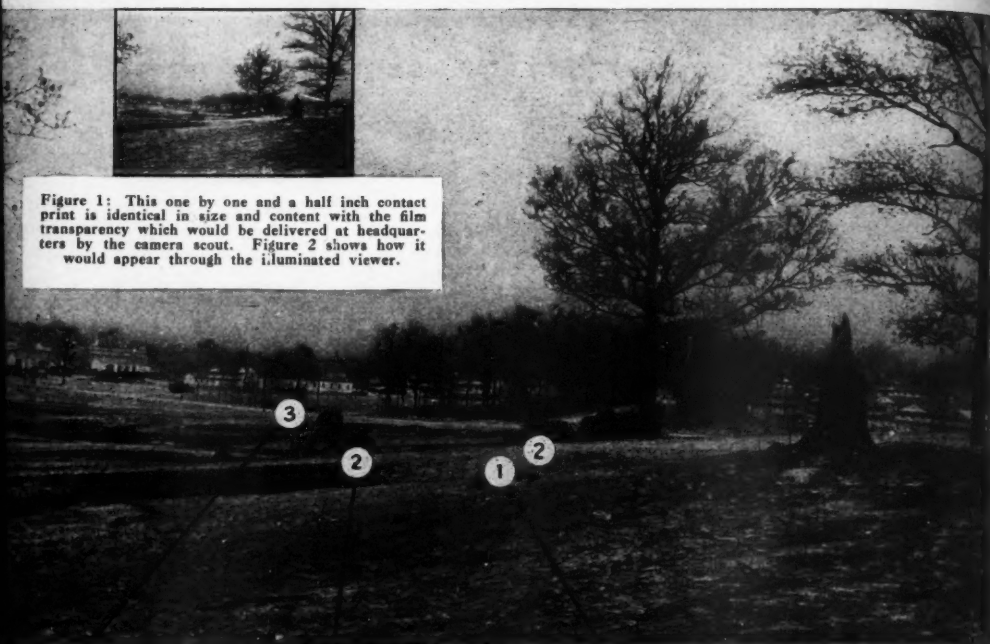
With modern developing methods a series of pictures can be taken and be ready for use within an hour, the entire developing process being done in daylight and, if necessary, in a moving scout car or jeep.

Training personnel in the use of the camera need not be a difficult process if it is remembered that what is desired is not camera artists but merely soldiers capable of producing clear record shots. With intensive and thorough training almost any American soldier could be trained to use the camera and its accessories in a month, presupposing, of course, a well organized plan of instruction.

The circumstances under which the



Figure 1: This one by one and a half inch contact print is identical in size and content with the film transparency which would be delivered at headquarters by the camera scout. Figure 2 shows how it would appear through the illuminated viewer.



**INTERSECTION — 1,000
YARDS FROM CAMERA**
3

**TANKS — 150 YARDS
FROM CAMERA**
2

50 YARDS FROM CAMERA
1

FIGURE 1: Picture taken with ordinary lens (50 mm.). The ridge line behind the stump is 50 yards from camera. The tanks are 150 yards away. The road intersection is 1,000 yards from camera. This represents what is seen when the transparency is placed in a magnifying viewer.

camera might be of value are numerous. Here are some of them:

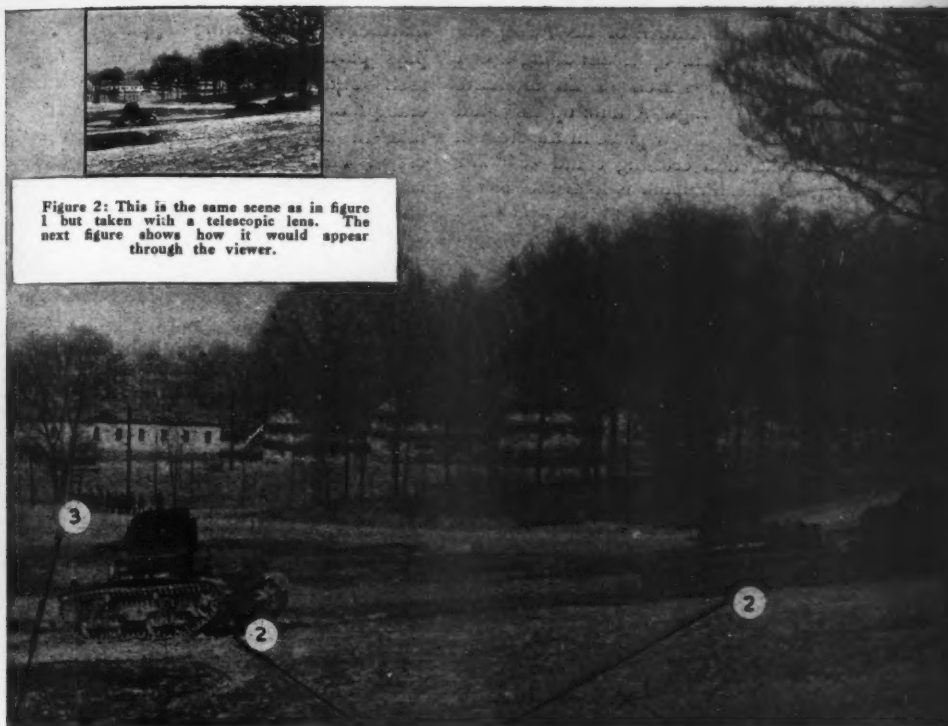
1. Bridge and road reconnaissance.
2. Substitution for field sketches.
3. Use by scouts behind the enemy lines in studying the composition and strength of columns and identification of units and equipment.
4. Engineer reconnaissance for stream crossing operations, bridge buildings, entrenchings and field fortification operations, including antitank installations.
5. Mine field reconnaissance.
6. Advanced aircraft landing field reconnaissance.

7. Recording of intelligence information through photographs of wrecked or captured enemy vehicles, weapons or dead.

Many other uses will readily suggest themselves and as a matter of fact any patrol or reconnaissance mission will be enhanced in value if pictures are used to illustrate the reports.

Photographs will provide the commander of a large unit with his best substitute for personal reconnaissance.

Here is an illustration of the use of the camera by a patrol: A patrol from the reconnaissance battalion of an armored division is given the mission of making a route reconnaissance in anticipation of a possible advance of the division. Specific information as to bridges, fords, roads and identification of the route is desired at division headquarters. Engineer personnel is engaged elsewhere and is not available for inclusion in the patrol.



1,000 YARDS FROM CAMERA 150-175 YARDS FROM CAMERA 50 YARDS FROM CAMERA

FIGURE 2: Picture taken from same position as figure 1 but with telephoto lens with a focal length of 135 millimeters. Lenses up to 400 millimeters are available.

The patrol, mounted in two or three quarter ton trucks, and equipped with a miniature camera and accessories, starts on its mission before dawn. By daylight it is well on its way, and in country where enemy patrol activity may be expected, but where no large forces are anticipated.

At 6:00 A. M. the patrol reaches a stream of considerable width and depth. Investigation shows that there is but one bridge across the stream in the immediate vicinity. This bridge has been partially destroyed.

The patrol leader believes the bridge may be readily made serviceable for the use of the tanks of the division, but not being an engineer, he does not know the length of time necessary or the materials

needed. He summons the cameraman who in fifteen minutes has taken 36 pictures of the damaged bridge from every conceivable angle. While the cameraman is unloading the camera and slipping in a fresh roll of film, the patrol leader writes a brief report to accompany the pictures. He decides the engineer officer will want the information and pictures without delay, so he immediately starts them back in one of the *peeps*.

Through the study of the photographs the engineer officer will be able to save much valuable time in estimating the extent of repairs necessary to make the bridge passable, and the size of the crew needed. Strength of bridges could also be estimated in a like manner.

With the remainder of his force, the patrol leader turns upstream along a dirt wagon road in search of an alternate crossing or crossings. A mile up this road he comes to a narrow place in the stream. It seems as if a crossing could be made here, but the far bank is high and steep. How long will it take to cut the bank down? How many men will be needed for the job? Will it be possible to use *dozers*? The patrol leader does not know, but when the engineers see the pictures he takes they will be able to tell at once. A roll of film is exposed and the patrol continues.

Wherever there appears a terrain feature which presents a problem, out comes the camera and enough pictures are taken so that the patrol leader is able to pass the buck back to the experts.

His next problem, however, is more difficult. As the leading car reaches the crest of a rise, the driver comes to a sudden stop and signals "enemy in sight." Through a break in the brush he has seen what appears to be a main highway with a sturdy, undamaged bridge across the river.

On the other side of the bridge are a half dozen enemy armored cars partially concealed. Farther down the road are several suspicious clumps of brush which may conceal antitank guns. The force is probably not formidable, but it is certainly too tough for this "sneak" patrol to handle. But information is there for the camera to see. Quickly it comes into action, but this time a new technique is needed. There is no cover within 300 yards of the bridge and an ordinary camera shot from the patrol's present position would give only a nice picture for a roto-gravure page in the home town newspaper.

So the cameraman takes from his kit a telephoto lens and what appears to be a carbine stock. Camera and lens, a lengthy affair, are fitted to the stock and the cameraman crawls to the edge of the clearing. Taking careful aim the cameraman covers the area with "fire" from his

martian-like appearing apparatus. He pays particular attention to the bridge itself and to those suspicious-looking clumps of brush. Just for luck he also takes a few shots of the armored car crews. There have been rumors of a crack enemy armored division in this sector, and G-2 will surely be interested in those uniforms and insignia.

Slowly and quietly the patrol withdraws. It is time to head for home. An uneventful morning, surely, but everywhere the patrol has been it has obtained a permanent record of what it saw, and thanks to the magnification of the telephoto lens, some things it could not see.

A snap-on device is also available for the camera to permit the taking of stereoscopic pairs, highly valuable in that they present a three dimensional picture. This may be used with either the regular or telescopic lens and both the device itself and the stereoscope through which it is viewed are small enough to be held in the palm of the hand.

What of the developing and printing processes necessary to make these films available for use?

Developing may be done out of doors in daylight by the use of a light proof changing bag. If necessary, the developing can be done, on the move, and in about an hour the film should be ready for viewing or printing.

With speed vital, it is probable that the pictures would not be printed. Reversal film, which yields a positive image on the film instead of the commonly known negative image would be used, and this could be viewed directly through an illuminated, magnifying viewer about the size of the issue canteen. This would magnify the image to show more detail than would be possible in an 8x10 enlargement. The illuminating element could be adapted to plug into any 6, 12, or 24 volt electric system. It could be used day or night and inside any vehicle, including a tank, or in blackouts. Within 15 minutes after the film reached headquarters it would be ready for viewing.




Figure 3: Viewed through an enlarging viewer this stereoptican pair would appear enlarged, and as a three dimensional photograph. Topography is seen in better relief. A stereoptican unit may be attached to a minicam.

FIGURE 3: Stereoscopic pair taken with telephoto lens. All equipment now American made. The Argus and Kodak 35 are tooled for production at any time, and the Leica could be manufactured here.

Or a special photo laboratory truck could be provided if the use of the system justified additional motor equipment. Of the feasibility of the plan there is no question. The Army's experiences in battlefield photography during World War I, or to go even farther back, the success of the famous photographer Matthew Brady of Civil War times, prove that.

The picture taking and developing equipment itself is small and compact. Each picture taking outfit should include a good 35mm camera of the Argus, Leica or Contax type which would be the backbone of the outfit. The telescopic lens and gun stock mounting would be essential to secure the full use of the equipment and would add little to either bulk or weight. Also included should be a rapid winder for the camera. This would permit the taking of a large number of pictures at almost the speed of a motion picture camera, and would be greatly to be desired in situations where the photographer might come under enemy fire. There should also be filters for using intra-

red film to cut through haze.

Two or more sets of developing equipment would be advisable with each camera. One of these would be always kept with the camera; the other would be available when it was desired to develop a roll of urgently needed film while it was being carried back to the point where it was to be examined. These developing kits would be remarkably simple. A changing bag, a developing tank and the necessary chemicals are all that is needed.

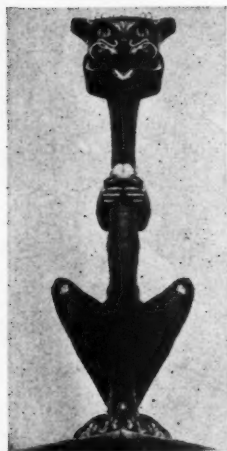
Several complete sets of cameras and accessories and developing kits should be included in the division reconnaissance battalion and several in the engineer battalion. Regimental and divisional intelligence sections should also be provided with kits.

Any division commander would, if he could, make a personal reconnaissance of every inch of the ground over which he was to operate. This being impossible, the next best means of securing intelligence information for the use of the commanding general and his staff is a minicam.

Freak Tricks

By RALPH STEINER
photos from Three Lions

ENTIRELY different effects can be made from one negative. By making two prints (one reversed) and pasting the halves together, we have two little girls and a five-legged cat.



RIGHT: (The original picture.) The little girl is embracing the cat and from the looks of that smile, he must be enjoying it. Above: Oh, my! He has eaten the little girl, but she is hanging on desperately.



ALMOST any picture with the subject well centered can be caricatured. Place the negative in your enlarger and make one print the size that you desire for the final copy, keeping in mind that a bigger image and fewer surroundings make a more stunning, distorting effect.

Reverse the negative in the enlarger and make a second print of the same size and exposure. Watch while developing that both prints have equal quality. Cut one of the two prints according to the lines of the subject; for instance, in a portrait the symmetrical line through the forehead, the nose, and the center of the mouth should be followed. Place one of the halves over the whole picture to see which arrangement gives the most freakish appearance. You are not limited to a vertical movement; tilting the easel produces a hair-raising appearance.

Once the best possible freak angle is obtained, glue the half on the surface of the whole picture, cut both pictures, mount the halves at the joining line on a piece of cardboard, and trim the edges.

If mass production for funny greeting cards is desired, a copy negative of the "freak print" is advisable. May you be able to settle all suits out of court.



WATCH that goat disappear! What's this?—The little girl is a freak with a moustache, one leg and no hands.

Everything, from the picture of a house pet to the portrait of Uncle Ezra, can be converted into a strange likeness. Auntie is beguiling with both sides of her face the same. The cow that looked into your lens so demurely that you just had to snap his picture, can be made to look like double talk come to life.

Try using two different negatives. Make a print of a horse in the usual manner. Leaving the negative in the enlarger, and trace the projected image on the easel onto a sheet of plain white paper. Place a negative of Johnny's violin teacher in the enlarger and focus the negative so that the man's waistline is the same size as the neck on the tracing of the horse. Replace the tracing with a sheet of sensitized paper and make a print of the same print quality as the picture of the horse. Cut the head of the horse off and paste the teacher's torso on. Centaur!

Using the cow, you can make a monster with a giraffe neck and wings.



PINK ELEPHANTS! Have you been drinking?

Playing the fiddle is easy ... for Heifetz!



By M. A. WOODBURY

YOU ARE acquainted with the local camera club member who crashes salons right and left both here and abroad. He can take a road from the Green Mountain district, cut out a couple of cowboys from a negative shot in Arizona, add a flock of Montana sheep, print in a cloud from the Rockies, paste them all together, rub on a little stove blacking here and rub off a little emulsion there and come up with a honey of a salon print. Salon judges like it. So does everyone else. He'll show you how it's done. Simple he says.

Then there is another chap who took the course offered by Mortensen. He shows up at a meeting armed with a razor blade, a batch of stumps, a pencil or stick of charcoal, an envelope of pumice and some brownish looking powder. He takes out a flat looking portrait and starts in. In half an hour he comes up with a print that a jury consisting of Custis, Rowan, Fraprie, Kaden and Fruth would vote "yes" on without a second look. He tells you it's a simple process.

The man who does bromoils, paper negatives, carbro gums, mediabromes, makes it sound easy. But the average amateur doesn't find it so.

Most amateurs are average workers. They may have had their first start in photography when the lady of the house presented them with a box Brownie for Christmas. Today they're past the snap shooting stage. They have learned to know a picture when they see one. They admire

the work of fellows like Fassbender, Darvas, Martz and Bradley. They would like to be able to turn out that sort of stuff. But sadly enough not one in a thousand is able to turn out that kind of picture. Why? Because the work of these topflight pictorialists is beyond pure photography. It takes a few strokes of the artist to produce Thorek's "Time Marches On" or Martz's "New 'E' String." And most amateurs are definitely NOT artists.

Here are three examples of what I mean by those "few strokes of artistry." Dr. Max Thorek was an expert with the airbrush long before he began to think of photography. With the airbrush he was able to produce admirable pictures. When he had mastered the fundamentals of photography he turned to the paper negative process. Why? Simply because through this medium he was able to put to use the skill and knowledge that was already his. The results are well known to all salon followers. But how many average amateurs have this ability?

David Darvas is another example of the ability to adapt art to photography.

→
This straight print, unmanipulated except for cropping, shows what an expressive job can be done with straight photography.

Warm, gentle, and keen of mind at 80, Alfred Stieglitz writes us in reply to a request for a self-portrait: "Bacchus is willing, but the damn flesh is not." The ideas of Steichen and Stieglitz, as put forth in their magazine, *CAMERA WORK*, in 1903 are, to this day, the stars to which American cameras aspire, to which American cameras aspire. (For a "straight print" from *CAMERA WORK*, see page 61.)



ALFRED STIEGLITZ

By Georgia Engelhard

Darvas's background is laid in the photo-engraving business. This Cleveland pictorialist controls a print in a manner that no average amateur can hope to equal.

Finally, I give you Charles Martz, the sage of Aurora, Mo. In a recent letter Martz says: "Since I saw you I have done three oil paintings, made three water colors, one etching and one wood engraving."

True these are but three of our present day crop of photographic greats whose works point to the conclusion that it takes an artist, or one with artistic training, to make a successfully controlled print. You'll find, too, that this enables them to play tricks with a print or a negative that is beyond the skill of people like me.

It is a fine thing to admire the works of Thorek, Mortensen, and Fassbender. From studying the results they achieve by "control processes" I am trying to improve my own prints. But there has been a revolution astir in photography for a long time, although you don't seem to hear about it in the photographic magazines. I don't know the reason for this. This revolution is the age old denial of technique when technique seems to be practised for its own sweet sake. Stuyvesant Peabody in *MINICAM*, July, put this into three words when he titled his article, "*Technique To Spare*."

A more vigorous speaker for the opposition is Nancy Newhall, acting curator of photography for the Museum of Modern Art. She said: "The Museums only prints from paper negatives were made by Talbot and Hill, and we've never considered the work of Thorek, Mortensen, Fassbender, and so on worthy of acquisition or even exhibition." Miss Newhall has the kind of stuff that gives any art or hobby a fresh impetus. In regard to my own recently expressed opinion of salon exhibits she said: "If Mr. Woodbury were a little less overawed by the 'salon great' and a little more ready to come off the fence and say he likes photography, whether he calls it Sunday or pure, I'd be more in agreement with him."

"There were some good things done in

Pictorialism by the Photo-Secession in the early 1900's, but since then the issue has been dying out until now there's nothing left but tricks and formulas reminiscent of the last century. Compromise with so defunct a corpse seems to me unnecessary; one can show only how defunct it is and point out the path to the live creative impulses of today."

Like a great many of us today, I am nibbling at the edges of that circle of technique that surrounds us. How much of it is necessary? There is many a virtuoso in gum prints who puts so much of his effort into bichromate that little else is left for presenting an idea, a thought, or an interpretation to his readers. Sure, as Keats had it, "some things are for beauty" and a print that offers sheer beauty and nothing else is a job for all of us to envy. But when 17 "Morning Mists" at the Montreal salon are interchangeable with 17 "Morning Mists" at the Chicago salon, do we have beauty or do we have imitation?

I cannot strike out as boldly as Miss Newhall but these are the fundamentals I believe we can concentrate on, and concentrate on them with such effort that all the technique that goes with "control" methods becomes secondary. Here are my fundamentals: a crystal sharp negative, composition, and the singling out of a point in subject matter for emphasis. Through this emphasis the photographer offers an idea, a message, or an interpretation which is the end force of his learning and personality.

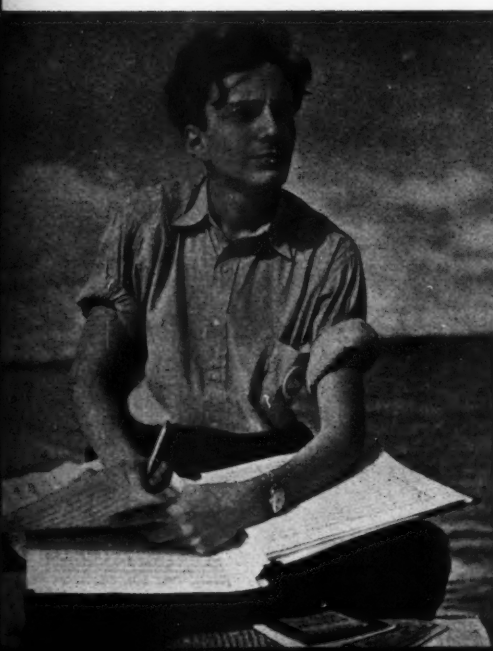
→
The photographer writes: "Charles Coleman, my 'Little Minister' sat in the middle of a room on a shaky piano bench at our local Progressive Center for colored people. As I focused on the ground glass, about 4 feet from my subject, I saw a very serious face, not particularly expressive. I asked Charles to smile, then I saw my picture. I said, 'Hold it!'; he did for 1/10th of a second. I thought I had the proverbial black cat in a coal bin at midnight! His skin was the blackest of all my subjects. I held my breath."

Technical Data: Super Pancro Press, Type B, f/8 at 1/10th second. 3/4x4 1/4 Speed Graphic. Film developed in DK-50 for 9 minutes at 65 degrees F. Two No. 2 daylight Photofloods were used for illumination.



LITTLE MINISTER

By George Winterstein, Jr.



By LUCIEN AIGNER

Interlochen, Mich., is the scene of the National Music Camp, a non-profit organization with 350 students. Scholarships are donated by generous music lovers. Its purpose is to introduce a musical education to young people. Here, the author discovered music could be photographed.

MUSIC will sometimes reflect its chords on human faces. Do you share an interest in photographing people in all their emotions, disguises and revelations? Good. For then in musicians you will discover a rich inspiration.

We photographers are just tolerated near the concert platform, and generally limited to candid shots of performing artists shot at one 250th, as is. Rare are the performing musicians or conductors who submit to flash-light during their concerts. Pictures taken during rehearsal, however, seldom record that raptured expression, which makes music visual.

The problem has intrigued me for quite a while, and I made many attempts with little or no success photographing famous musicians without satisfying myself.

Last summer, I had a unique opportunity through an invitation extended by Dr. Joseph Maddy, who with his friend Thaddeus Giddings created the National Music Camp with nothing but their enthusiasm and a few thousand dollars borrowed

BY THE LAKE, under the trees, wherever you walk, students court their muse. This young man looks like a composer and hopes to be one.



STRING QUARTET (Final Version). Note the elevated position of two players in the second row which helps round out the composition's effect. The lighting gives emphasis to the photographer's thought that the faces of the players are important. We see these expressions, therefore, not as something odd, or peculiar, but, because of the lighting, accept their feelings as having a measure of significance.

from friends and developed it into a national institution. The camp is held at Interlochen, Michigan.

The understanding was that I would follow my own program, would shoot whatever I thought was interesting. I had a few tentative assignments from magazines, but with eight weeks at my disposal I was looking forward to a leisurely summer vacation, with incidental "shooting" whenever I would feel like it. Well,

the summer was wonderful, but by far not peaceful and leisurely. Before I could have focused my camera twice, I was: supervising the building of a dark room for the camp, illustrating the Camp's weekly magazine, taking pictures for its yearbook, and organizing a workshop.

What made my work comparatively easy was the fact that I had "carte blanche" in the strictest sense of the word. I could roam around the whole

camp at my heart's content, be wherever I pleased, peek into the hidden corners and private studios; was allowed to stop whatever procedure I wanted, to improve the setting, or arrange the subjects. Not only could I intrude on lessons, practice-hours, but I was given the rare privilege of interrupting even an orchestra rehearsal, if the requirements of my camera so desired. The smallest and the biggest camper were inspired by that passionate love of music and art which makes this type of camp successful. They were imbued with the ardent desire for perfection, whether in music or photography.

Even though they may not have fully understood my purpose during the process of picture taking, they never grumbled, no matter how many times we had to rehearse or repeat scenes, no matter how often I interrupted them in their work; they were never rushed, felt never too tired to start over again. Those who ever worked with a group of people, know what this means, especially with a group who are more interested in what they were doing than in being photographed.

I know that such ideal working conditions offer themselves perhaps once in a lifetime, and, therefore I am not going to aggravate my photographer friends any longer, but will try to explain what I did, and what they can do, when subjects, Nature, and the Muses are all ready to cooperate.

These youngsters may not have been great musicians, though there were a few amongst them who had real musical talent. But great musicians are not necessarily the best photographic subjects for "expressing" music in a pictorial sense. Great performing musicians often learn how to restrain themselves and show as little as possible of their struggle or of their feelings. The feeling—they hold—has to be in their music and not on their faces or gestures. They often scoff at visual dramatic effects while playing. Jascha Heifetz, one of the greatest, of all living violinists, is a good example. He, like many great artists, had suffered and

struggled long years until he arrived to a stage where he can perform miracles with his bow and instrument, produce the most perfect tone, the crystal-clear, crisp interpretation of the most intricate musical theme without visible effort, and with about as much ceremony as someone lifts his hat for a greeting. He has been described as "cold" because he does not "show" his feelings. Musicians know of course he is not cold. He is perfectionist with both a violin and a poker face.

My musicians were of a different sort. Often that very transcendent something which had not yet materialized in their play, showed on their faces.

I don't care whether that floating expression of human heart and soul stirred up by music is produced by a masterpiece, or a child's song, by the play of a master performer, or the stammering of a beginner. I am satisfied as long as it is there.

This music-inspired expression of the human face is very important in any picture dealing with music and musicians. It would be monotonous, however, if the photographer tried to capture nothing else but this.

Secondary approach, rich in photographic values, is through the various instruments.

While at the Camp a musical instrument had both pictorial and human value. I learned to identify certain instruments with faces and human characters who played them. The "baritone", a huge brass instrument for instance, became identified in my mind with the befreckled round face of a chubby little fellow, whom I had spotted during the first week of my stay as the "ideal" baritone player.

I will probably meet better harp players in my life but the harp will always live in my memory coupled with that angelic faced little girl, who at Camp had become for me "the" harp player.

Perhaps not all instruments had crystallized in my mind with equally strong associations, but I have always tried to associate them with human characters.

Now let me tell you about the "story"

of some of my pictures and the problems that rose and fell before I succeeded in approximating at least those inner pictures, which I had decided to create, and shoot.

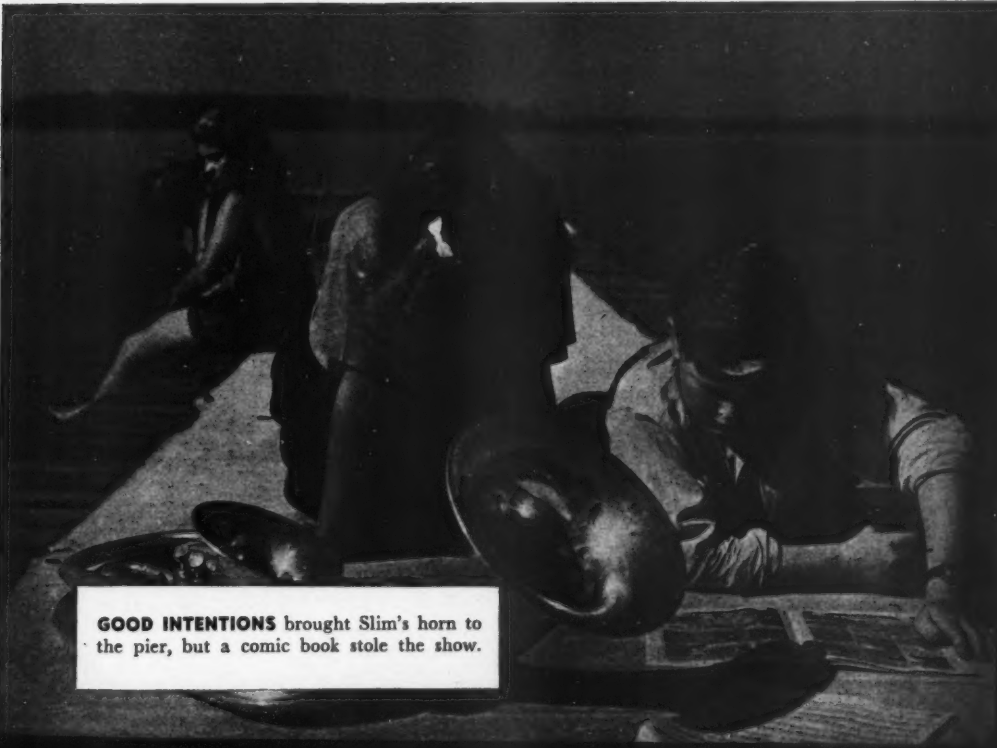
Take for instance the story of "*Harp teacher and his pupil*." When I started studying the picture possibilities of this wonderful instrument, I remembered the swan, who is so full of grace while in the water, but becomes awkward moving around on the shore. So is the harp: beautiful to hear and look at, but awkward when it comes to picture-taking. It has poetry and swing, and awkward bulkiness in one. One day I sat in a harp lesson watching. Out came the spheric sounds. There she was, my little girl, with the angelic face and my old weather-beaten harp teacher, and they just did not fit together. The harp was tremendous, the girl behind it insignificant, and the teacher standing apart. Just to warm up, I took a shot or two. I give you one shot here just to show how long the road was for me before I arrived to the final version.

Then I started "abstracting" my imaginary picture of the harp player and her teacher. What should be in this picture?

There had to be the child's face showing in close-up reflecting utmost concentration, enthusiasm and inspiration. Then there had to be hands, of course, touching the strings to establish actual contact between musician and her instrument; then the old harp teacher's face and hands should also be in the picture for contrast with the young face and young hands. I hoped this would add variety and richness to the composition. Finally, the instrument had to show, or had to be suggested, rather: complete enough and still not kill by its bulkiness the rest of my imaginary picture.

While I was struggling to translate this inner picture into photographic form I kept on watching my little girl playing.

Slowly, I moved my camera close to my subject; I arranged two light sources, #2 bulbs, from about 45° angle from the back, behind the subject. While experimenting with the lights (my assistant was



GOOD INTENTIONS brought Slim's horn to the pier, but a comic book stole the show.



HERE AGAIN is a picture which is more music "camp" than music. I staged it, I must confess but it might have happened any day. Some of the students were going to an orchestra rehearsal, others have a half hour before another lesson and are going for a dip in the lake. I used a flash with the sun for back lighting.

pushing them back and forth while I looked at the effects), I was worried how close I could come to shooting through the harp strings or screening my subject behind them without being corny. Sunday supplement pictures of harpists have turned certain "harp string" effects into "cold potatoes" because of long public familiarity. I thought I would chance using the harp string as a screen between the subject and the camera and trust that the rest of the composition would take the yawn off that. The heavy upper part of the harp could dominate, then, with a powerful curve, suggestive of the full "bulk" on stage. A little more shifting of the lights and the background appeared dark enough, to be natural. Only thing

left was to separate the subject from the darkness of the background, by adding one small light source for backlight.

I had the group as I wanted it, subjects, light and all. But now came the tough part: make them look alive and invoke that final magic. I wanted the teacher to "do something", but what? "Correcting the girls hand position" was finally agreed upon. Unfortunately if you try such a thing a few times for rehearsal, both pupil and teacher become so stiff and bored that nothing will be left but boredom, and that is what the camera records. Fortunately the little girl's technique needed to be corrected and the teacher WAS a good teacher, who (while she played and played the wrong way) forgot about the camera and corrected hand



A LITTLE FIDDLER is being broken in. Dr. Howard Hanson, conductor, is seen here doing some special drilling with the bass violin section. I tried in pictures like these for "atmosphere" of the place.

AN INTIMATE phase in the growing pains of an orchestra as a work session of the percussionists gets down to "NO! Do it *this way*." Freddie Fennel, director of Eastman school is demanding musical noises, "not hoof beats."

position for good. And the little girl, too was more interested in her harp and her lesson than my camera. After a few attempts I had them where I wanted, except that while they switched from posing to real action they changed their positions, and their faces moved out of the composition: the teacher's face was hidden behind the harp and the girl's face turned in an awkward angle.

Well, I don't want to give you any more details of the two hours the three of us spent in half-agony, experimenting. We all have gone through it. I spare you the sight of the twenty odd shots which preceded the final picture. I give you one "intermediary shot" and the final one.

This final print made me feel that I



had recorded something fine and good and human and it is warming to feel that, as we all know. It is this feeling that is the reward, the pay of being a photographer. All else is work.

Having practically lived in the orchestra for weeks, I discovered a few things about musicians, which I will use one day I am sure. I learned how much magic there is in percussion instruments. What to many people may appear as simple noise

making, may become a deep source of inspiration for people having music in their hearts

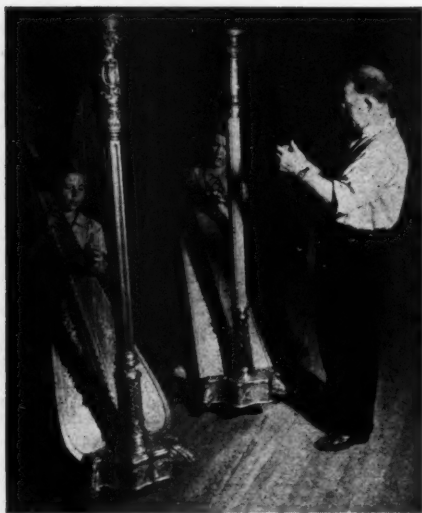
There were no easy shots during the whole season. Such subjects as the choir, which had inspired many photographers to successful pictures, gave me plenty of headaches. Groups of singing people are mostly photogenic. But if you try to shoot a chorus, you will discover that it requires a lot of shifting of the groups until you succeed in getting a good composition. In casual snapshots, picturing daily life at a music camp I tried to be true to the spirit of the camp rather than to a factual authenticity: I went after scenes which had a story to tell; which I imagined might have happened, rather than scenes that actually did, but which were uninteresting in themselves. My girl practicing violin in the kitchen, and the boys enjoying a few minutes of rest between rehearsals

in the sunshine in a boat with music instruments on their laps, are such examples.

All I can say that after two months of hard work, after having shot seven hundred negatives, and planned about twice as many more, I still feel that there is a lot more to be done.

And I am ready to start doing it any time I am invited to return.

If there's a music conservatory in your city, get permission to shoot some of the rehearsals. I can't think of a salon in which I saw a picture of a musician, engrossed in practise, with music flashed across his face. I know the salon judges favor a winding stream with tall poplars on each side, taken at dawn with sun streaming through the trees. For the sake of variety, take a musician with you into the woods, and let the S curve of the winding stream, and the L composition of the tall poplars and flat crest of the summit of the hill rest in unphotographed calm. Set the musician at it with his horn or fife and let him blow. You might shock the good fathers into a green light at the next salon—after all most of the judges have never had the chance to reject anything but "Dawn." Strike up the band!



ABOVE is an "obvious shot of a harp lesson. Everything is bad: lighting, composition, action. Shooting such a picture is sometimes necessary to discover what IS hidden in a subject.

RIGHT is a better approach but the composition is still incomplete. Where is the child looking? The teacher's hands are not fully utilized. The harp takes up too much space on the right.





THE HARP TEACHER AND HIS PUPIL

By LUCIEN AIGNER

"THE FINAL VERSION," says the photographer "shows some improvement." Notice the difference between this interpretation and the studio shot of "Child with Harp" on page 48.

"I took 50,



Mr. and Mrs. Charles Perry Weimer look the part, like the workaday world trippers they are. After six months planning, these fortunate people set off on a real photographic bender--making a picture survey of a continent.

IN THE never-never land where historians refer to a cup of water as "that precious liquid" and the breaking of a dry twig becomes "the sharp bark of a Mauser," Mrs. Weimer and I took 50,000 stills, and 70,000 feet of movie film in eighteen months. South America has its sources of photographic difficulty, but none so ominous as the hazards parried by the intrepid journalist who, ambling along a mountain path, dutifully reports that "the slightest slip means instant death". With admirable faith, we planned to survey the whole of South America, photographically, in six months; to get a full and complete story of every phase of life on the continent. Of course now we know how many life times it would take to do.

50,000 pictures"



These shutters and flimsy slats at the foot of the shrine provide a striking contrast to the bald weather-rounded rock, from whose summit rises the white church. *Rio-Brazil.*



Plaza de Moya

LIKE A HUGE SUNDIAL, this circular garden might tell the passing hours by the shadow of its column. The palm balances the composition and directs the eye into the picture.

WE ARRIVED in Venezuela on the Grace boat "Santa Rosa" in the late summer of 1940 with 27 cases, including baggage, cameras, equipment, camera cases and film—and no knowledge of either Spanish or Portuguese. We set out to make a complete story in 16mm Kodachrome movies, 35mm color and black and white, and 3¼x4¼ black and white, which was used in my old standby, a Graflex. My first special contract job was an all-color story on coffee in Colombia for A & P, and after three weeks photographing around Venezuela (where we later returned to make a special film for Gulf Oil) we flew to Colombia and got to work. I photographed industrial shorts on oil, coffee, copper and American "machines" in action.

The Obvious problem before going to South America was to assemble the best possible equipment and have it simplified so that I would be able to cover every assignment with the least fuss. This led me to eliminate all the gadgets, and the endless "musts" that one gets handed from every side. I purchased a Model 70DA Bell & Howell, three-lens, turret-front with two set lenses, one regular and one wide angle, and a telescope. A second similar Bell & Howell was taken for emergencies.

My assignment made it necessary to carry something easy to handle under any old condition. For 35mm color I decided the Leica was the best suited for my purpose, in that it was light, yet complete with an excellent Sumar F 1:2 lens, view finder, automatic frame "flipper" and case. My

Graflex was to be used for any special pictures I wanted to record where the larger negative would be preferable in making enlargements for general press and publication sale. I did, however, shoot many thousands of black and whites on a Balda that I picked up in South America, and I found this 35mm camera very useful for quick shooting where I did not wish to make all the adjustments necessary with the Graflex.

A tripod was handy only on certain occasions as I found it slowed me up, as well as producing a certain stiffness in technique. A complete set of filters was in my kit. Haze filter was used always over the nose of my Leica when shooting color and black and white. My sunshades were in place at all times on all cameras. The purpose in making certain of my pictures was to get local color, actual habits and customs of the people, plus the casual, yet natural everyday pictures that are most pleasing to the "newly interested". Others I took with the express purpose of recording artistic, scenic and pictorial pictures that would please photographers.

Some pictures had to be made rain or shine. Others were taken on brilliant deserts at high altitudes, or deep in the jungle. From this you might gather that I had some difficulties. I did. However, tests made immediately in 35mm black and white made it fairly easy for me to keep both my color and black and white average high while passing from one country and climate to another. It might be interesting to note here that I had little or no trouble with moisture. I have gone into refrigerator rooms in various bottling works from an outdoor temperature of 125 degrees, and even with the moisture running from my camera inside during shooting, on coming back into the outdoor temperature I found upon inspection that no bad effects were evident. I even carried a reel of color in my extra Bell & Howell from Rio, all through the north east of Brazil and into the Amazon valley some 1400 miles in the interior, and then all the way to Venezuela and the Orinoco

Valley by boat and plane, yet the reel of color was not the least bit affected. Only on two occasions, Guayaquil, Ecuador and Belem, Brazil did I have bad development—then when the careless shop owner used water from the river, ie., no ice. Incidentally I had all my negatives developed as I went along, or when I arrived in major cities. I tried to do them myself from time to time, but there were too many of them. Some of the developing shops were O. K., but in general I would recommend bringing your negatives home for developing unless your trip is so long this is impossible.

Where I did use some auxiliary lighting due to poor electric systems it was never sufficient to keep interiors perfectly lighted, so I usually had to resort to time pictures on that score. However, I found that with proper control over my timing and exposure I could get almost any effect I wanted without the usual change in film and filters. Only on rare occasions was it necessary for me to use a color filter on the Kodachrome because I carried both regular and Type A in movie and stills. Where it was necessary to use indoor film I usually carried enough lights to cover most situations, but there were times in larger cities where I had to get supplementary lights from local shops to get sufficient lighting for my pictures.

I used as few types of film as possible so as to eliminate worry over changing emulsion speeds. For outdoor work, I used Panatomic X and Super XX for indoor work, and Super Pan Supreme always in my Graflex. Often I bought film along the way, and took what I could get. Much of it European and I never did find out what emulsion speed it was supposed to have. My broker here in New York sent me by air express tropical pack film to various cities along the way and only on two occasions, one in Peru and one in Rio did the film fail to get to me. I carried all the film in a large suitcase with no special moisture protection. I did, however, always keep the case with me, never letting it stand in baggage rooms, hot docks, or similar places. When making



BRAZIL is in three colors: red ground, green foliage, white peaks, and they make a vivid pattern everywhere.

trips into the jungle or where climatic conditions were particularly bad, I carried only enough film for the trip in a carrying case, leaving my main supply in as safe and dry a place as I could find.

Super Pan Supreme and Panatomic X and Super XX with a yellow or yellow green filter with proper manipulation in exposures and timing made every effect possible without changing of filters. In most cases I used only a haze filter on the black and white, no matter what film I was using, and with proper timing and exposure I could get everything I wanted without delay or fuss. Keeping your films "standard" on a trip of this kind with set emulsion speeds, makes it possible to shoot without the worry about "dozens" of emulsions you might otherwise have to keep under your hat, and without resetting your meter.

I carried two Weston meters. The actual reading of the meter, without your

own personal knowledge and experience put into it, means nothing and the pictures lose their snap and color. I personally have learned to use my meter for effects suitable for my own purposes, and the effects in color that I try for are somewhat different than the usual Kodachrome with instructions from the "book".

My purpose in recording in color is to get the most color into the picture with the best possible composition. It is possible to change nature's colors with Kodachrome as it is to paint a dozen different pictures in oils in various keys of color, tone and value. Many photographers forget that certain colors properly arranged can make a pleasing picture. They think only of the subject and the fact they are shooting in color which they think must be as brilliant as possible. They forget the shadows, colors in the shadows, and how these affect brighter colors elsewhere in the composition.



Maracaibo Oil Fields, Venezuela

THIS SORT of picture is a ready-made trap for the touring Brownie fan who is awed by the gigantic steel derrick and the vast oil reserve it pumps. When this shot is taken without regard for composition or separating sky from water (either by filtering the sky or making a play for the shadow reflections on the water), the luckless result will have no bearing on what the photographer sees. The technique in getting this nice picture was in arranging for composition and singling out, for effects, the incongruity of steel and water.

I might add here that my Kodachromes range in color from very low to very high key. They were taken from two hours before sunrise to moonrise, or long after sunset; in rain, sleet, fog and haze; on clear, bright and perfect days, all of which makes for variety and subtlety. My purpose was to get the actual color at certain singular times. A Kodachrome can be taken at any time, any place if properly exposed. The idea of taking Kodachrome pictures in sunshine is a lot of hooley.

Any one who is dissatisfied with cluttered pictures should seriously study composition. Composition in Kodachrome particularly is a two-dimensional problem

in that the colors themselves must balance as well as the subject photographed. In black and white you need not be as fussy about your color balance as with your Kodachromes, but even then it requires a constant observation of values while planning or spotting your subject for good composition. In making many thousands of my pictures I had to turn this way and that, walk up and down, moving constantly to keep composition and color always playing their part in giving me the results I wished to obtain. Kodachrome without good composition and pleasing color is a waste of film and time.

When you wish to dramatize a street



Rio Grande Do Sul, Brazil

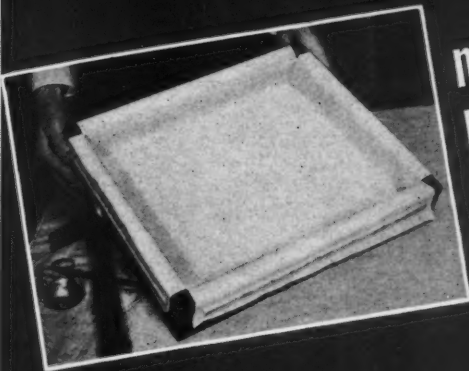
THE BRAZILIAN lives a happy-go-lucky pastoral life. He is a Bohemian at heart, gay-spirited and singing. There is a friendly camaraderie between him and his four-footed friends. Red tiled roofs, brilliant sunshine, beautiful old trees make a fitting setting for these farmers.

scene, or other similar subject, make the masses play a big part in your composition, especially if you haven't a major or large central subject to work from. Central interest can best be procured by considering two or three important facts as used by the illustrator when making his pictures. My technique here is simple, in that I use only two or three simple principles which are found to be elastic in the case of each. One is the white spot surrounded by a dark mass, and of course vice versa. There are others like the parallel, parabola, check and whites. Dramatic pictures usually contain lines of light or masses of black and whites. These can be varied, of course, with good foreground masses to carry depth and force in lighting. Proper use of "counterpoint" or spotting of light objects for balance and softness is to be

remembered. It isn't always that such counterpoint can be perfect, yet its use whenever possible makes the picture.

Getting in Kodachrome the effects that you actually see is difficult, yet to my mind the highest aim in Kodachrome photography. It being difficult has driven many away from experimenting in this type of picture, but when it is dull, grey, rainy and colors run off at the cool end of the spectrum, then and then alone is it interesting to get these effects and record them as they really are. There are many photographers who disdain the use of Kodachrome when there is no sunlight or when conditions in general will result in a low key picture, yet of the thousands of Kodachromes I took, I find people are often most interested in the ones recording

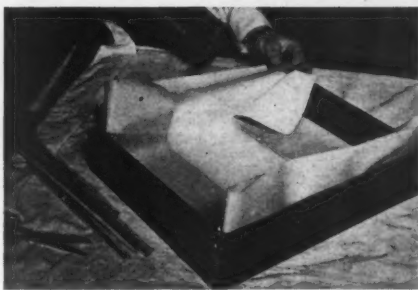
(Concluded on page 96)



make BIG TRAYS from OILCLOTH

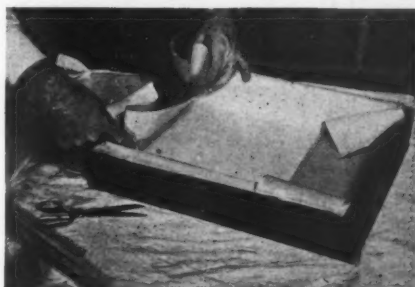


CUT THE oilcloth to size and place it face up in a wooden box, which has been painted with Kodacoat or Probus paint. Fold the two ends slightly shorter than the box; then fold the sides in and smooth the material. The box shown is 12x16x2½" and the oilcloth is 23x25".



CUT EACH end loop as far as the top of the box and tack temporarily, so that it will stay in place.

It is not necessary to pass up a chance to make big enlargements because you haven't a set of large trays and feel it would be extravagant to purchase them for occasional jobs. Oil cloth trays will serve the purpose and can be made from inexpensive materials. The size of the trays will depend upon the size of the enlargements you wish to make.



CAREFULLY tuck in the excess corner material, making clean square corners. Avoid bending the oilcloth any more than necessary.

TACK DOWN the overhanging edges with small wooden strips and brads; first the ends, then the sides. The wooden box should outlast many relinings.





STAINED GLASS window (left) of St. Catherine, done in France in 1450 AD. The shaded areas (above) represent the segments which were covered with black paper after the initial exposure. The lightest parts, face, palm and hand had one second at $f/64$ in sunlight; the robe received three minutes.

PHOTOGRAPHING CHURCH and MUSEUM ART

By Allen Richardson

IN NEW YORK CITY, high above the Hudson, is the beautiful "Cloisters." It was here that I was commissioned to photograph many of the catalog pieces. The problems involved in photographing this great art offered a challenge in technique.

Stained Glass Windows

With sunshine brilliantly illuminating the lovely stained glass windows the problem of photographing them appeared to be simple. But a meter scanning from the deep purples and heavy cobalt blues of the garments to the whites of the faces

revealed a difference of light value as great as 200 to 1. For practical purposes the difference should not be greater than 4 to 1, as you may remember from Kodachrome instructions, even though the reproduction is to be in black and white. Overexposure and filters gave little help. Only some kind of light control could effectively reduce this two hundred-over-one ratio. But how?

These stained glass windows are composed of small irregular panes leaded together, the general appearance like a completed puzzle. The leading is about one-half inch wide. Usually each pane has



THIS 15th century altarpiece (above) is framed in gold inlay. It is better to photograph each piece "as is." Note the striations and cracks which add a value of their own.

IT IS not advisable to remove signs of antiquity (on the negative) of paintings or works of art. The authentic appearance of the painting at the left was destroyed by retouching the negative.



PAINTINGS are often identified by extraneous marks. This one has scratches. The Halo is gold inlay typical of Early Renaissance religious paintings.

but one graded color. Thus any color can be restrained by covering the glass segment to the edge of the leading with opaque paper, which does not show to the lens.

Six panchromatic negatives were loaded, five of them used for a test. The first test negative was exposed for the highlights and the others in the progression of 3, 9, 27, 81. Developed, they gave a perfect exposure scale for all colors and showed which sections to hold back and how much. Now the final negative was exposed for the highlights and the shutter closed. With the help of a ladder, black negative spacing paper was rubber-cemented over the lightest color patches and the exposure continued on the same negative for the next tones to be brought within range. Six accumulative exposures alternated with pasting of segments finally illuminated the heaviest colors to what they should be. The final negative ranged from a one second exposure at f/64 for the whites to about three minutes for the cobalt. Commercial panchromatic film was used.

TO suggest on a few inches of photographic paper the height, bigness, light, atmosphere and grandeur of a cathedral is well within the camera's special field of work. Forty years ago, Frederick H. Evans, one of whose cathedral pictures made in 1901, has been reproduced on the opposite page, wrote:

"An inferior actor in playing Shakespeare is not content with letting words speak for themselves, but must force the point, must rub it in, till by excess of endeavor he fails of any real or vital conviction. [In cathedral pictures,] . . . detail is either too prominent or too much sacrificed; proportions are also unduly magnified; elements that do not happen to excite the draughtsman's fancy are too freely suppressed or minimized.

"One charm and advantage that a really artistic photograph of a cathedral interior has over a drawing or painting is that it is so evidently true to the original subject; one does not instinctively

feel inclined to ask, how much of this effect is due to the particular vision or translation of the painter? Or how far is it not only a picture but also a true picture of a great building, built by greater artists than we, and whose elements we lesser men have no right to tamper with or rearrange or maltreat to make what we may think to be a finer effect? There is an instant conviction about an artistic photograph of a cathedral interior.

"And it is here that I chiefly enjoy the assertion of my pet heresy, the dependence, all but wholly, on pure photography. So fine are the subtleties of gradation in light and shade in a cathedral study, so unimprovable are the relations of tone and mass, that any attempt to improve on them by alterations of density in various portions of the negative during development (when no possible knowledge can be had of the effect it will have on the positive), only leads to failure, real failure, though to too many it may seem an apparent success.

"Unfortunately, photography will do so much so cheaply so easily that the untrained artistic worker gets things he likes, and stops there, instead of asking how much better they could have been had he known the full capacity of his tools or his subject.

"To render with poetic justice the solemn beauties of our cathedral will, I hope, tend to one small result, to tempt toward a more leisurely visiting of these unique buildings. During my stay in a cathedral town, I have but rarely seen the same faces among the visitors on two consecutive days. A visit of merely a day to one of these noble edifices is all but useless; it is only after repeated visits, and quiet leisure, that the place reveals itself in full beauty. There are no more abiding memories of deep joy and satisfaction, of a calm realization, of an order of beauty that is so new to us as to be a real revelation, than those given by a prolonged stay in a fine cathedral."



"In Sure and Certain Hope."

By Frederic H. Evans

MADE WITH AN F2 lens, on modern film, and printed with ultra 1943 chemicals? Not this. Forty-one years ago, Frederick H. Evans made it with tools, any of us could call derelict. Is your dealer out of \$195 Rolleis? Try Mr. Evans' way. He had patience, and an eye for light.

INFRA RED UPSETS THE APPLE CART



By AUGUSTUS WOLFMAN

Infrared Photo by Ernest Schwarz

ONCE you load your camera with infra-red film and place a deep yellow or red filter over the lens you are entering a different world as far as the interpretation of the scene is concerned. How the scene will reproduce depends on how objects reflect or absorb infra-red radiation. We are accustomed to having trees reproduce as medium or dark grey. In infra-red photography they will appear almost white, as if covered with snow. Reason: the green foilage of trees reflects considerable infra-red rays. On infra-red film, these trees perform as light-colored objects in daylight. Because they reflect the infra-red strongly, they reproduce dark on infra-red film and light in the print.

This does not apply to all trees. Coniferous trees—the evergreens—do not reflect infra-red rays as well as the broad

leafed trees and therefore reproduce darker.

Blue skies reproduce practically black since they contain little infra-red radiation. Clouds, which reflect infra-red well, appear white.

When distant scenes are photographed with infra-red a curtain seems to have been lifted to reveal clearly detail in the extreme distance. Normally such detail is wholly or partially obliterated by the haze in the atmosphere.

There is a happy superstition on the part of those who talk a good game of photography that infra-red photographs can be made through fog. I have found this impossible. The water droplets making up a fog, at least the kind of a fog we have in New York City, are much larger than the tiny miniscules of water that constitute a haze, and these fog



Ernst Schwarz

THE DEEP SHADOWS, bright highlights, light reproduction of greens and dark skies in infrared photographs permit dramatic effects. Considerable enlargement is permissible.



Ernst Schwarz

ONLY THE GREEN leaves, and not the trunks and branches of trees reproduce light. And, leaves in shadow reproduce darker, just like in ordinary photography. Incidentally, be sure to handle infrared in total darkness.

droplets scatter infra-red rays practically as much as they do visible light rays.

Haze is due to the shorter wavelengths of light—the blue and violet—being scattered by the minute particles of moisture and dust in the atmosphere. This bluish veil prevents us from seeing detail in the extreme distances. The greater the distance, the thicker is the blanket of haze and the less pronounced is detail. Since all films are very sensitive to blue and violet, aerial haze is readily reproduced in photographs. Yellow or red filters used with panchromatic films hold back some of the haze.

These longer infra-red wave lengths have the ability of passing through the suspended particles in the atmosphere without being scattered. Therefore, when an infra-red film and a red filter are

used, the scattered blue and violet of the haze are held back while the infra-red rays coming from the extreme distance are permitted to reach the film. The unusual effect of reproducing what the eye cannot see is obtained

Since there is very little reflection of infra-red rays from the sky, shadows reproduce very dark with little detail being seen. Portraiture with infra-red is very disappointing unless special make-up is used. The skin and lips appear translucent and eyes reproduce as black dots.

Your exposure meter is of little value in this field of photography. The meter is affected by all the visible light in the scene and daylight varies in its ratio of visible to infra-red radiation. An average exposure in bright sunlight, with infra-red film and a red filter, is 1/25 second

WHEN THERE are no clouds and a deep blue sky, the latter will produce practically black. Leica $f/3.5$ wide angle lens, Agfa Infrared film, $1/40$ sec. at $f/3.5$ with a dark red filter.



Ernst Schwert

at $f:5.6$.

These films generally are sensitive to blue light, some visible red light and to infra-red rays. In order to make pictures by infra-red it is necessary to use a filter to prevent the blue light from entering the camera. A deep yellow or red filter serves this purpose. Such filters as the deep yellow Wratten No. 15, the orange-red No. 23A and the red filters pass visible red light besides the infra-red. All visible light can be cut out by using deep filters as the Nos. 70, 87 and 89. In pictorial infra-red photography, such extremes are rarely used.

Another technical detail to take into

account is the fact that infra-red rays do not come to a focus in the same plane as the visible rays. The lens focuses them at a point slightly back of where the visible rays are focused. This means that the lens must be brought slightly forward; generally it should be racked forward about 2% of its focal length.

Some manufacturers provide their lenses with separate infra-red index marks. The lens is first focused normally, then it is racked forward to place the special infra-red index mark opposite the point where the regular mark was positioned. If your lens does not have this special index mark, write to the manu-

facturer or distributor who may have some information on this point. If not, you can conduct a little test: Focus the lens normally at an object; then make 3 or 4 infra-red photos, each time bringing the lens slightly forward. Make marks on the focusing scale to indicate each point at which a photo was made. After the negatives are developed, the correct point to place the lens can be determined.

The photographing of distant scenes in infra-red opens the possibility for making many outstanding prints. Such scenes are best when there are cloud formations in a blue sky. The light reproduction of greens, detail discernable in the extreme distance, and cloud formations standing out against an almost black sky produces unusual pictorial effects. Without clouds you would obtain a blank dark sky. The fact that green vegetation reproduces very light offers the advantage that it tends to balance the white clouds contrasted against the dark sky.

The peculiar reproduction of sky and green vegetation also produces dramatic results when photographing medium distance and close-up objects. Drama is further heightened by the brilliant highlights and dark shadows that are obtained.

These effects make it possible to produce moonlight scenes in broad daylight. For this purpose it is best if contrasting white clouds are not included in the scene. Also, the side lighting of the morning or afternoon sun is best.

Despite the fact that the sky reproduces practically black and shadows are very dark a photo may not appear like a moonlight scene because the highlights are too brilliant. The remedy is simple: Over-expose your print; shadows will be still darker, and the highlights will grey over slightly. The result will be a print that will look as if it had actually been made by moonlight.

If you can't avoid including white clouds in the scene give the clouds more exposure time, when printing, through dodging, to grey them over. The moon-

light effect can be further heightened by toning the print blue.

When photographing large expanses of water and sky, bear in mind that not only the sky, but the water as well reproduces very dark. You will need some separation between sky and water to produce a pleasant effect. In lake scenes, green vegetation along the distant shore will do the trick—the greens reproduce light.

Another case where you may not be able to follow usual practices is the use of trees or bushes for framing. Since they generally reproduce dark, they make the main point of interest stand out. Infra-red upsets the apple-cart. Instead of being dark, trees reproduce light. Here is where you will have to use your ingenuity. Although the use of trees for dark framing is out, you can now use trees, bushes, etc., for light frames about objects.

All this does not apply when large massive tree trunks are used for framing. It is the green leaves which reflect a large amount of infra-red radiation, and not trunks and branches. These will still photograph dark in infra-red photography. Also, if trees are in deep shadow, the leaves will not reproduce very light. You will have to use your judgement in these cases. After some experience you will be able to judge fairly closely how trees will reproduce under various conditions.

Snow photography with infra-red is interesting principally because snow shadows are blue and reproduce dark, thus providing quite a contrast to the glistening whites. With infra-red film it is easier to record coarse snowdrifts, but a certain degree of underexposure (or underdevelopment) is necessary so as to prevent "blocking up" the crispy sparkling highlights. This degree is tricky to ascertain.

Infra-red photography really offers something different to the photographer. Here is a field where you anticipate how a scene reproduces when photographed by invisible light which is reflected by various objects in a different manner than visible light. You are bound to get some interesting results. Try it.



FROM WAY "down under" War photographer, Norman Herfort, sends us two pictures he made at Sydney State Theatre "testing" infrared film. On his camera is an ordinary synchronized flash bulb unit, with a dark red screen over the flash that filters out all visible light rays except a minute quantity of visible red. Infrared rays, invisible to the eye, pass through the filter. Herfort received permission to play around—we mean "test" and reported his picture taking went unobserved by the audience.

THE VILLAIN still pursued her. "Take that," he said, "and that and *that!*" Where are the Marines? But our Australian reporter was there with his infrared flash and film to record this immortal study in apprehension. Darn that villain, anyway.



FOCUSSING WITH infrared film, and a red screened flash unit at a movie house, requires, like everything else, its own technique. You can't see your subjects, nor they you. You "guess focus" and shoot when you see the whites of their eyes; we mean when you catch moans, anxiety or waves of laughter. If you get tossed out, it serves you right.

INFRARED FUNDAMENTALS

1. Are ordinary films sensitive to infrared rays?

No, panchromatic and orthochromatic films are not sensitive to these rays.

2. Which colors reflect infrared rays; which absorb them?

<i>Reflect infrared rays</i>	<i>Absorb infrared rays</i>
white	blue
yellow	grey
green	black
orange	
red	

3. Infrared rays do not come into focus in the same plane as visible rays. What can be done to correct this?

The lens focuses infrared rays at a point slightly in back of where the visible rays are focused; therefore, the lens should be focused and then racked slightly forward. Usually about 2% of the focal length.

4. Why is it not possible to get accurate reading with an exposure meter?

The exposure meter is sensitive to all visible light in its path and the ratio of visible to infrared radiation varies in daylight.

5. Why is it necessary to use a filter with this film?

To prevent blue light from entering the camera.

6. For what purpose is infrared film used in aerial photography over enemy territory?

Being extra sensitive to certain colors, it "sees through" them and reveals that they are phoney, i. e., camouflage.

7. Can you tell which of these three pictures was made on infrared?

Clues: Infrared cuts through haze making horizon more distinct. Clouds are whiter. Sky is darker because any color which is held back by film or filter (blue in this case) registers as "dark" on your print.

WHICH ONE OF THESE THREE LANDSCAPES WAS MADE ON INFRARED?



Photographs made by R. G. Rudd, Eastman Kodak Laboratories.

LEFT: Made on Panatomic X film with no filter. Exposure 1/25 sec. at f/16. Fog obliterates most of distant hills. **CENTER:** Made on Panatomic X film with a Wratten No. 29 red filter. Exposure 1/10 sec. at f/8. See the hills start to come up. **RIGHT:** Made on Eastman Infrared Sensitive film through a Wratten No. 29 red filter. Exposure 1/25 sec. at f/8. Infrared light reflected from the distant hills affects the film and the hills become more clear.



GAILE ELLIOTT, of the Fort Dearborn Camera Club, puts up her name on the Reservation Board, for the Darkroom, at 5:00 p. m. next Wednesday. The club has one studio and seven darkrooms. Members have lockers for supplies.



ON A LIVELY Saturday, lots of members want to wash their films and prints at the wash tank of the Fort Dearborn Camera Club. The cardinal sin is the splashing of hypo on floors, walls, and the chap three feet away.

★ **JOIN A
CAMERA CLUB**
and have access to equipment

CARL ZEIGLER, who is better known as editor of *Architectural Concrete*, is making some enlargements which are certain to be exhibited, he stoutly believes, as they come up in the tray.

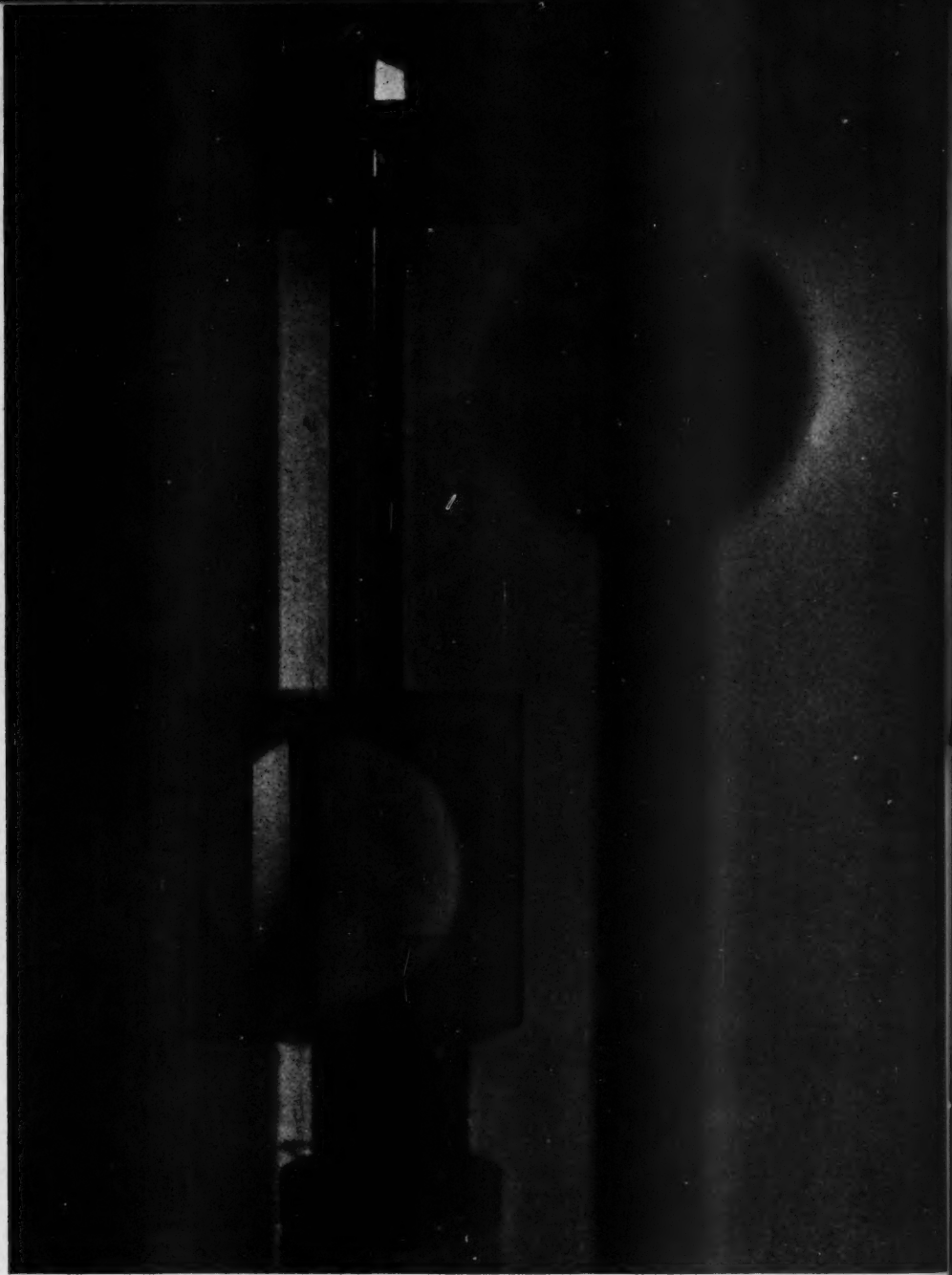


IN these days of scarcity of equipment and supplies, everybody has a little of something, but who has most everything? Ans.: a good camera club.

Here are some scenes from the Fort Dearborn Camera Club of Chicago. It has a studio, a workroom and seven darkrooms. Each member with darkroom privileges has his locker and his chemical shelf to store equipment, paper, film and bottles. There are washing facilities for several tanks of film and washers full of prints, dry mounting and trimming equip-

ment, shelves for blotter rolls, and storage racks for trays. But it is men, not equipment alone, that make a club. At the Fort Dearborn Club the members enjoy explaining personal methods, and offering ideas on cropping, toning and the like.

MINICAM PHOTOGRAPHY has a complete list of all active camera clubs. If you desire to join one in your city, and want to know the name of the secretary—just send us a stamped addressed envelope and we'll be glad to oblige you. There are 2,000 camera clubs in U. S. A. today.



AN ABSTRACT PATTERN composed of various types of prisms. Prisms are easy to find

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CUBISM

in motion

By HERMAN G. WEINBERG

THE dividing line between a film and a stage-play is more than the presence of a camera and a "shooting script"—it is a *filmic approach* to the subject. In my previous articles in MINICAM PHOTOGRAPHY, (*The Sorcerer's Apprentice* and *Time-Lapse Cinematography*), two purely cinematic approaches

A TWO WAY prism shot of the degenerate young men of Sodom. Prisms were used throughout the revels of the Sodomites to enhance the unnaturalness of their "carryings-on". Pictures from the experimental movie, "Lot in Sodom".

The dream world so often necessary to depict in a movie finds easy and economical expression in a prism shot.

article. It is customary to refer to any departure from the "straight shot" as "trick photography." These three aspects are more than tricks—they are legitimate extensions of the cinematographer's art.

Abstract and experimental films have long employed prisms for purely esthetic effects, as ends in themselves. As such,



AN ABSTRACT PATTERN composed of various types of prisms. Prisms are easy to find—a glass door knob will do. Place one in front of your movie camera and watch the world go round.

[70]



GROUP OF PRISMS showing various types. Top: Kaleidoscopic prism. Right: 8-way (octagonal). Center: 2-way prism. Others are simple pieces

CUBISM *in motion*

By HERMAN G. WEINBERG

THE dividing line between a film and a stage-play is more than the presence of a camera and a "shooting script"—it is a *filmic approach* to the subject. In my previous articles in MINICAM PHOTOGRAPHY, (*The Sorcerer's Apprentice* and *Time-Lapse Cinematography*,) two purely cinematic approaches were discussed. A third aspect, the use of the prism, will be dealt with in this

A TWO WAY prism shot of the degenerate young men of Sodom. Prisms were used throughout the revels of the Sodomites to enhance the unnaturalness of their "carryings-on". Pictures from the experimental movie, "Lot in Sodom".

The dream world so often necessary to depict in a movie finds easy and economical expression in a prism shot.

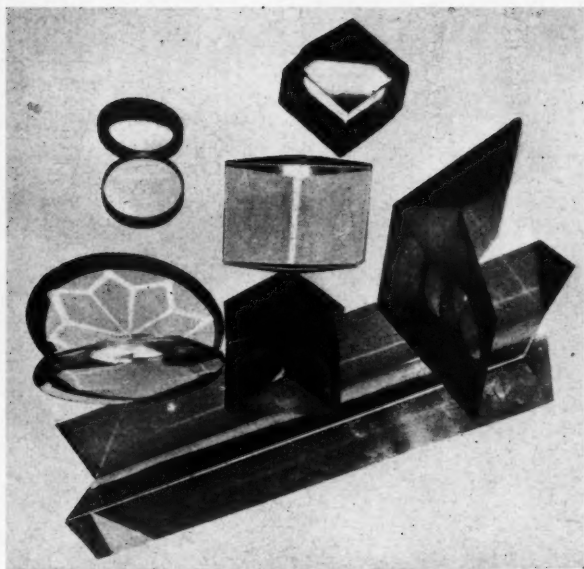
article. It is customary to refer to any departure from the "straight shot" as "trick photography." These three aspects are more than tricks—they are legitimate extensions of the cinematographer's art.

Abstract and experimental films have long employed prisms for purely esthetic effects, as ends in themselves. As such, fascinating images were realized out of ordinary objects, images removed from

[71]



TO ACCENTUATE the wheedling smile of Lot, attempting to convert the Sodomites away from their evil ways, a distorting prism was used. By Sibley Watson and Melville Webber.



GROUP OF PRISMS showing various types. Top: Kaleidoscopic prism. Right: 8-way (octagonal). Center: 2-way prism. Others are simple pieces of glass picked up in odd corner shopping and used for distortion to give a split image effect.

the everyday world into the world of dreams and fantasy. The camera-lens plus prism saw what no eye could see. But the prism can also be used as a means to an end, for desired effects that will enhance a scene and contribute to the eloquence of the whole. As in all art, all "tricks," whether of the writer's, painter's or composer's craft, are legitimate means to an end. The success or failure of the trick depends on the correctness of its functional use.

One of the easiest technical effects to achieve in films is prismatic photography. One need merely acquaint himself with the various standard types of prisms available on the market, learn what each will do, and decide for himself which will achieve for him the desired effects. The technique of fitting them over a lens is simplicity itself. Sometimes they will be a fixed, stationary adjunct to the lens; sometimes a mobile adjunct that the photographer will turn to realize a new poetry of motion, or to catch additional facets of the prism on the same object.

Still photographers have long been acquainted with prisms, though they have

used them sparingly. The visceral-dynamic nature of the film is well suited for what a prism can do.

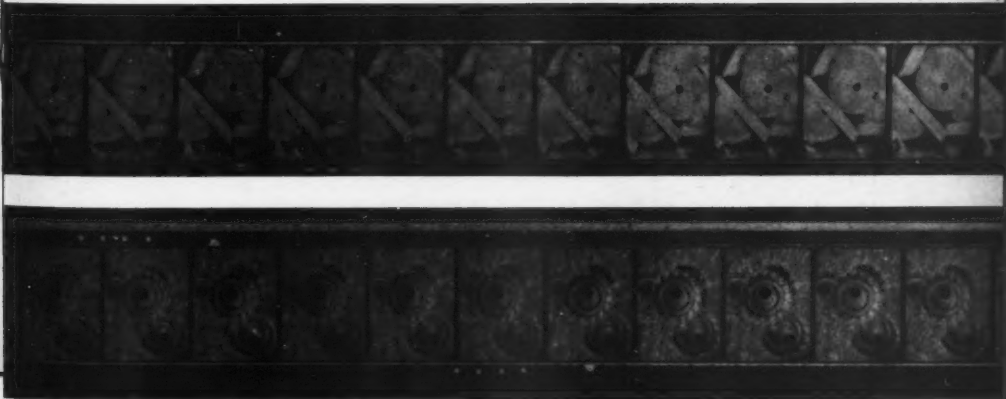
A lens has one facet, a prism can have from two to eight facets, though there is no limit, actually. Theoretically, one could shoot through a multi-faceted diamond if there would be one large enough to fit over a lens. As a matter of fact, large, chunky pieces of costume jewels make excellent prisms — aquamarines, topazes, any transparent jewel that will reflect light. Any glass object that is not opaque will make an additional type of prism, such as a glass doorknob, water pitcher, tumbler, cut-glass bowl, wine-glass, or those glass paper-weights, cubes and wedges that one can obtain at any optical-goods store. Crystal glass is the best and gives the sharpest definition and the "cleanest" prismatic results. An ordinary magnifying glass can be used as a distortion prism. Whatever you use can be partly tested out in advance. Look through the prism with your eye—whatever you see you will get, only more so. Nor is there anything to prevent your using a combination of prisms, though I



TO ACCENTUATE the wheedling smile of Lot, attempting to convert the Sodomites away from their evil ways, a distorting prism was used. By Sibley Watson and Melville Webber.

(Right) COMBINATION of two prisms, a "separating prism" and a split prism. As the figure of the angel rears up, in duplication (to accentuate his unreality) the wife and daughter of Lot are seen separated and moving to the right and left of the angel, out of the screen. One of the stunning prism sequences from "Lot in Sodom".

(Below) FILM STRIP from Fernand Leger's "Ballet Mecanique". This is a prism shot of pots and pans. Below, the pans are spun before a stationary prism. Try your dime store for glass paper weights or trinkets that can be used as prisms.



do not suggest trying more than two. An apparatus to hold them both in place can easily be rigged up in front of your lens. One or both can be rotated. Also, you can filter your lights through a prism and your light, itself, can be made to rotate through a turning prism (as was done so effectively in *The Eternal Mask*). This, of course, applies only to artificial light. An ingenious "undersea" effect can be obtained by shooting through a water-filled glass tray, which, while not exactly a prism, will give a startling prismatic effect. As for prismatic color cinematography, enchanting effects are possible. I once saw prismatic shafts of light, blue and yellow, glinting off the morning dew on a sheaf of wheat that made a ravishing image on the screen.

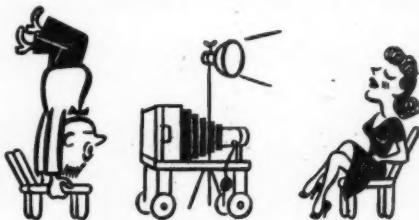
Hollywood rarely uses prisms, especially since the advent of sound; the eloquence of photography in telling a film story has been supplanted by dialogue which, after all, is perhaps easier for them, since it requires less imagination. Two silent films that I can immediately recall as having excellent prismatic passages were Lubitsch's *So This Is Paris* and Dudley Murphy's *The Loves of Sunya*. Watson and Webber's *Lot in Sodom* and *Fall of the House of Usher* had most imaginative prismatic passages and the experimental work of Mary Ellen Bute and Ted Nemeth, in their *Synchromy* series, *Rhythm in Light*, *Escape*, *Tarantelle Parabola*, etc. is full of charm-prismatic effects. The European work of Hans Richter, Man Ray, René Clair, Erno Metzner, Fernand Léger, Germaine Dulac and the Comte Etienne de Beaumont is replete with the knowing use of prisms in such famous experimental films as *Race Symphony*, *Etoile de Mer*, *Überfall*, *Ballet Mécanique*, *The Sea-Shell* and the

Clergyman and *Of What Are The Young Films Dreaming?*

An excellent inspiration to the film amateur who wishes to explore this phase of cinematography would be the viewing of some of these films and, no doubt, arrangements could be made through The Film Library of the Museum of Modern Art in New York for the rental of several of them for groups or film-study classes. The magic accomplished in these films is within the power of anyone with the aid of the geometric glass forms illustrated in this article, or even with the common everyday glass objects previously mentioned, whose utilitarian function hides another and more unearthly use.

A charming short could be made using various types of prisms exclusively, beginning with the main and credit titles shot through a two-way prism, and going through a brief repertory of various prisms, kaleidoscopic, distortion, multifaceted, etc. A new color process is currently available, also, wherein you shoot in black and white and your film is printed in color. For the beginner, this is an excellent way to achieve his first prismatic color film.

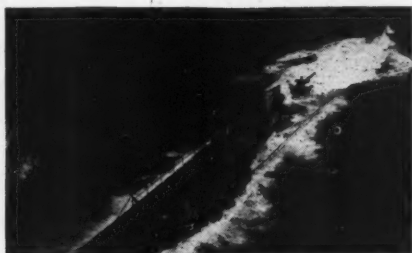
Since the function of the prism is to break up lines, planes and surfaces, achieving a more expressive approximation of the subject than the unbroken whole gives, prismatic cinematography can be said to be "cubism in motion." Cubism upset the whole notion of painting and from it flowered modern art as we know it today. Cubism was not an end in itself (as a landscape or still-life by Cézanne will prove) but a means to a more expressive end in painting. Prismatic cinematography is not an end in itself but a means to a more expressive end in filming. Who will be the Cézanne of the cinema?



COAST GUARD ACE PHOTOC SHOOTS SEA EPIC!



U. S. Coast Guard Cutter SPENCER fires depth charges



Hit by gunfire, conning tower smashed—"She was done."



Chief Boatwain's Mate Jack January, former St. Louis newspaper photographer, now a member of the U. S. Coast Guard Cutter, *Spencer*. His series of photographs, two of which are shown above, is one of the picture highlights of the war and a tribute to the camera in combat.

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HOT WEATHER HINTS

Why a Special Hot Weather Technique?

When the temperature in the darkroom is above 75 degrees, it raises the temperature of the chemicals and therefore changes the results from their use. High temperature, and particularly high humidity, will affect the emulsion of films; tin cans sealed with adhesive tape will help to protect them.

The Effect of Heat on Developing Solutions

Heat will accelerate the deterioration of developers and produce high contrast and grain in negatives; therefore it is best to keep solutions cool, but not too cold.

Best Methods of Developing Films in Warm Weather

The most common method of developing films in summer is to put ice around the tray or tank. Never put ice in the solution, as it will melt and change the properties of the liquid. A cold bath for the film tank may be improvised by putting cold water or ice in a larger tank; a small tray may be placed in a bath of ice water in a larger tray. Agitation will insure even temperature.

Developing at Higher Temperatures

Remember that the higher the temperature, the less time it will take to develop films. Methods of developing at high temperature are not preferred methods of developing, but serve only as a means to an end when there is no available method for cooling solutions.

Most developers, with the exception of those that are highly alkaline, can be used at temperatures up to 75 degrees F. without danger, if the development time is correctly shortened and an effective hardener is used. Some chemicals are safe to use at high temperature, but there should be no more than five degrees difference between solutions. There are also chemicals, such as Edwal's Thermo-Salt and Champlin's Tironamine-C, which may be added in warm weather to make solutions safe. Several tropical developers contain additional sodium sulfate to repress swelling. This chemical may be added to the following for safety up to 85 degrees Fahrenheit:

Kodak D-76 and prepared Eastman Tropical Developer—1½ oz. desiccated sodium sulfate to 32 oz. of solution.

Edwal 12 and Edwal 20—100 grams of sodium sulfate crystals to 32 oz. of solution.

Use of Formalin

Films hardened in Formalin prior to development may be processed in warm chemicals when necessary. Negatives hardened with this chemical may, after a period of years, become damaged by cracking or disintegrating of the emulsion. However, a duplicate negative usually can be made in cooler weather before any damage becomes evident, if the picture is worth the extra trouble. In making a duplicate negative some detail may be lost.

Formalin Hardener

Mix water, 10 parts, and 40% formaldehyde solution, 1 part. Harden negatives in this for 5 to 8 minutes. Wash 5 minutes in running water, and then develop and fix as usual.

Formalin Fixing Bath for 85° to 95° F.

Hypo	10 ounces
Sodium Sulphite	1¼ ounces
Formalin	4 ounces
Water to make	32 ounces

Formalin (40% formaldehyde solution) gives off fumes that are irritating to nose and eyes. Keep solutions containing it covered as much as possible.

Storage of Chemicals in Hot Weather

It is safe to store developers in an ice box, provided they are not kept too close to the ice. However, this is only recommended in extremely warm climates. Chemicals must be warmed up to the recommended developing temperatures before use.

When development is completed, rinse the film or plate in water for 1 or 2 seconds and immerse in the hardening bath for 3 minutes (omit water rinse if film tends to soften); then fix for at least 10 minutes in an acid-hardening fixing bath, and wash for 10 to 15 minutes in water (not over 95 degrees F.).

General Precautions

In hot weather, handle films by means of clips or hangers, rather than the fingers.

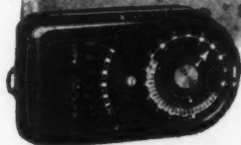
Dry film in as cool a place as possible and before a fan when available.

When sponging film before drying be extra sure the sponge is clean. Even though the film may have been hardened, the emulsion is usually softer than in winter and may be scratched easily.



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HOT WEATHER FORMULAS*

HARDENERS

Tropical Hardening Bath

For use at 75° to 90° F. with Films (Eastman SB-4). This solution is recommended for use in conjunction with high temperature developer, when working above 75° F.

Water	32 ounces
Potassium Chrome Alum	1 ounce
Sodium Sulfate, desiccated	2 ounces

If crystalline Sodium Sulfate is preferred instead of the desiccated, use 4½ ounces in the above formula.

Agitate the negatives for 30 to 45 seconds when they are first immersed in the hardener, or streakiness will result. Leave them in the bath for at least 3 minutes between development and fixation. If the temperature is below 85° F. rinse for 1 to 2 seconds in water before immersing in the hardener bath.

This hardening bath is a violet blue color by tungsten light when freshly mixed, but it ultimately turns a yellow-green with use; it then ceases to harden and should be replaced with a fresh bath. The hardening bath should never be overworked. An unused bath will keep indefinitely, but the hardening power of a partially used bath decreases rapidly on standing for a few days.

Simple Chrome Alum Hardening Rinse for Films

Water	32 ounces
Potassium Chrome Alum	1 ounce
Sodium Bisulfite	1 ounce

Mix before using. Discard at end of day.

Film should be left in this solution from 3 to 5 minutes and agitated frequently. If desired, film may be rinsed before placing in fixing bath.

DEVELOPERS

Rapid M-H Tropical Developer (Agfa 64)

Hot Water (125° F.)	24 ounces
Metol	36 grains
Sodium Sulphite, anhydrous	¾ oz. 40 gr.
Hydroquinone	95 grains
Sodium Carbonate, monohydrated	½ oz. 15 gr.
Potassium Bromide	15 grains
Water to make	32 ounces

Do not dilute for use.

Normal development time—3 to 4 minutes at 68° F. 2 to 3 minutes at 85° F.

Tropical Developer for Films and Plates (Eastman DK-15)

Water, about 125° F.	24 ounces
Elon	82 grains
Sodium Sulfite, desiccated	3 ounces
Kodalk	¾ ounce
Potassium Bromide	27 grains
Sodium Sulfate, desiccated	1½ ounces
Cold water to make	32 ounces

If it is desired to use crystalline sodium sulfate instead of the desiccated sulfate then 3½ ounces per 32 ounces should be used.

Average time for tank development is 9 to 12 minutes at 65° F. and 2 to 3 minutes at 90° F., in the fresh developer, according to the contrast desired. When working BELOW 75° F. the sulfate may be omitted if a more rapid formula is required. Development time without the sulfate is 5 to 7 minutes at 65° F. Develop about 20 percent less for tray use.

Low Contrast Tropical Developer for Films (Eastman DK-15a)

A developer which gives less contrast than Kodak DK-15 can be obtained by reducing the quantity of Kodalk in DK-15 to 73 grains per 32 ounces of developer. Development times and processing instructions are the same as for DK-15.

FIXING BATH

Hardening Fixing Bath for Films and Papers (Eastman F-5)

Water, about 125° F.	20 ounces
Sodium Thiosulfate (Hypo)	8 ounces
Sodium Sulfite, desiccated	½ ounce
Acetic Acid (28% pure)	1½ fl. ounce
Boric Acid, crystals	¼ ounce
Potassium Alum	½ ounce
Cold water to make	32 ounces

To make 28% acetic acid from glacial acetic acid, dilute three parts of glacial acetic acid with eight parts of water.

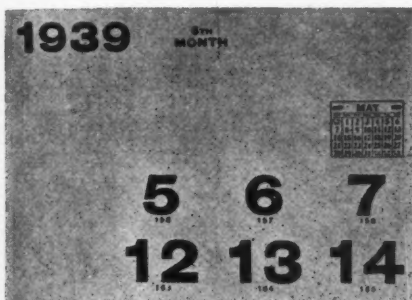
Crystalline boric acid should be used as specified. Powdered boric acid dissolves only with great difficulty, and its use should be avoided.

Films or plates should be fixed properly in 10 minutes (cleared in 5 minutes) in a freshly prepared bath. The bath need not be discarded until the fixing time (twice the time to clear) becomes excessive, that is, over 20 minutes.

*Dissolve chemicals in the order given.



(1. No filter.) **FILTERS ARE** to increase contrast, but how many of us think of using those same filters to decrease contrast? Since a filter permits light of its own color to pass (and therefore show up light on a print), it decreases the contrast between that color and a white background.



(2. Red filter.) **IN COPYING** old yellowed photographs a yellow filter would remove traces of "lemonade". A blue filter when used in making a portrait in sunlight will eliminate those dark eaves which you thought would photograph like a pair of twinkling eyes.



(3. Blue filter.) **IN FIGURE 1**, Pan-X was used with no filter; the red letters have been reproduced a light grey. In figure 2, a red filter was used with Panatomic-X film; the red filter permitted red light to pass, thus decreasing contrast to the extent that the red letters are no longer visible. In figure 3, a blue filter was used with Panatomic-X film to give greater contrast between the red letters and the white paper.

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AUGUST CONTEST CALENDAR

Open to	Subjects	Prizes	For copy of rules, write to	Closing date
Amateurs	Photographs must dramatize some phase of our civilian war effort.	\$500 War Bonds Awarded every month.	Victory Photo Contest, Victory House, Per- thing Sq., Los Angeles, California.	Last day each month.
Amateurs	Any.	\$25 in awards, including three \$5 prizes weekly.	Camera Contest Editor, Chicago Herald Amer- ican, 326 W. Madison St., Chicago, Ill.	Weekly
Amateurs	Any. Award based on sub- ject interest and initial impact.	\$10, \$5, \$4, \$3.	Mechanix Illustrated, 1501 Broadway, N.Y.C.	24th of each month.
Press Photographers	Pictures in which clairs play a news-worthy part and which were taken in course of regular duties and pub- lished.	\$50, \$25, 5 awards of \$20, 5 awards of \$10 and extra awards for special merit.	Photo Judges, Cigar Institute of America, Inc., 630 5th Ave., New York, Y. N.	Sept. 30th and Dec. 31st
Any	German Shepherd Dogs.	Salon Class: \$25, \$10, \$5. Misc. Class: \$10, \$5, \$2.	Mr. Chester Madison, 7874 Cressett Drive, Chicago, Ill.	August 15th
Any	Any child from birth to three years.	\$50 and \$25 War Bonds, \$10 cash.	No entry blank necessary. See contest announce- ment in June Minicam, page 49.	August 25th
Any	Gadget Contest. Prizes awarded to those who submit the most novel and useful ideas as to how they have used or what they have made with the Ed- mund Chipped Edge Lenses.	\$25 War Bond, \$10, \$5, 10 honorable men- tions, consisting of choice of ten lenses listed on Edmund's gen- eral price list.	No entry fee or form necessary. Send en- tries to Edmund Salvage Co., 41 W. Clinton Ave., P. O. Audubon, N. J.	September 31

The Last Word

(Continued from page 12)

negative and have it returned hopelessly ruined, looking as though motorized artillery had rolled over it? And to avoid this, do you go broke making blow ups for all and sundry? Why not dodge both unpleasant alternatives, and just pull a duplicate negative; make a positive by contact, and from that, make a negative? Here's an easy way to get uniform timing: load a printing frame, set it on the baseboard of your enlarger; have the enlarger focused for 6X (assuming you're printing in strips of 6), stop down to f-22, and give 15 secs. for an average negative strip. This is based on the performance of an Eastman Precision with standard equipment bulb. Using the enlarger as a printing light is more convenient than putting low power bulbs into your printing box, and stopping down gives a printing time sufficiently long for accurate measurement of time.

Best wishes.

E. Hoffmann Price

R. D. 2, Box 2805,
Redwood City, California.

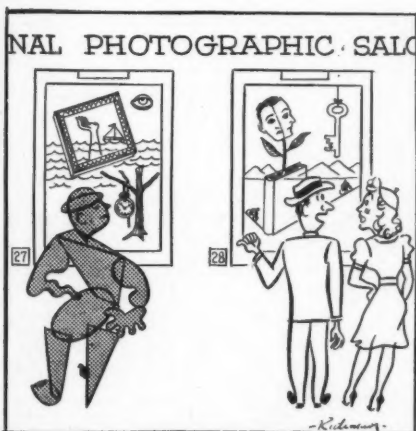
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R. J. KEMPTON,
Presque Isle, Me.



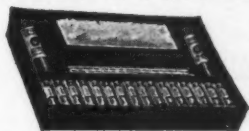
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SALONS AND EXHIBITS

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Closing Date	Name of Salon	For Entry Blank, Write to	Number of Prints and Entry Fee		Dates Open to Public
Exhibit to see	Second Chicago International Photographic Salon.				Chicago Historical Society Bldg., Lincoln Park, June 1-Sept. 7.
Exhibit to see	Annual International Salon of Muncie Camera Club.				Muncie, Ind. Camera Club, Aug. 1-6.
Exhibit to see	Exhibition of 50 Years of Aerial Photography.				American Museum of Photography, 338 S. 15th St., Philadelphia, Pa.
Exhibit to see	27th Annual International Salon of Photography.				Los Angeles County Museum, Exposition Park, Los Angeles, Calif., Jan. 1-31, 1944
August 15	Second Annual Salon of German Shepherd Dog Photography.	Chester Madison, Salon Chairman, 7874 Cressett Dr., Chicago, Ill.	Any	25 each	Von Langerke & Antoine, Chicago, Sept. 5-11 Marshall Field & Company, Chicago, Oct. 4-18
August 21	★Fifty-second Toronto International Salon.	F. L. Harvey, 3019 Queen St. E., Toronto, Canada.	4	\$1.00	Eaton's Fine Art Galleries, Toronto, Can. Sept. 13-25
September 1	London Salon of Photography.	Mail entries to The Hon. Secretary, The London Salon of Photography, 26-27, Conduit St., New Bond Street, London, W. 1.	Any	\$1.00	Galleries of The Royal Society of Painters in Water Colours, 26-27, Conduit Street, New Bond St., London, W. 1.
September 1	First International Photographic Exhibit, Field Museum of Natural History.	Orr Goodson, Acting Director, First International Photographic Exhibit, Field Museum of Natural History, Roosevelt Road and Field Drive, Chicago 5, Ill.	4	\$1.00	Field Museum of Natural History, Chicago, Ill., Sept. 15-Nov. 15
September 18	Eighteenth Annual Salon of Photography, Museum of Fine Arts of Houston.	The Salon Jury, Museum of Fine Arts of Houston, Main and Montrose Blvd., Houston, Texas.	4	\$1.00	Museum of Fine Arts of Houston, Main and Montrose Bld., Houston, Texas, Oct. 3-17
September 23	Fourth North American Salon.	Viola Haug, Sec., 1601 41st Street, Sacramento 16, Calif.			Sierra Camera Club, E. B. Crocher Art Gallery, Sacramento, Calif., Oct. 3-30
September 25	Third Annual International Salon of the Victoria Photographic Association.	Dick Colby, Room 4, 640 Fort Street, Victoria, B. C.	4	\$1.00	Empress Hotel, Victoria, B. C. Oct. 22-Nov. 7
September 30	Second International and Ninth Western Canadian Salon of Photography.	Donald N. Smith, Forest Insect Laboratory, University of Manitoba, Winnipeg, Manitoba, Canada.	4	\$1.00	Oct. 9-22
October 1	★Fourth Annual International Vancouver Salon of Pictorial Photography.	J. Crookall, 3746 Eton Street, Vancouver, B. C., Canada.	4	\$1.00	Vancouver Art Gallery, 1145 West Georgia, St. Vancouver, B. C., Canada, Oct. 22-Nov. 11
November 9	11th International Salon, 1943-1944, of the Pictorial Photographers of America.	John H. Jackwig, Salon Secretary, 715 E. 226th Street, New York, N. Y.	4	\$1.00	American Museum of Natural History, Central Park West and 79th Street, New York, N.Y. Dec. 13-Jan. 2

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WANT \$210 for complete outfit. Zeiss Super Ikonta II, with Zeiss Tessar F3.5; Compur Rapid and Eveready Case; Weston Jr. Exposure Meter; Zeiss Filter and Supplementary Lenses. All like new. E. Dirksen, 527 East 84th St., N.Y.C.—28.

BOOKS—EDUCATIONAL

BOOK LOVERS. Would you pay \$2.98 for 101 best sellers, value, \$259.05? Information free. Jenkins, 392B, Elmira, N. Y.

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MOVIES—SLIDES—PHOTOS

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BEAUTIFUL KODACHROME SLIDE and list, 25c. Art Slide Co., R-1, Canton, Ohio.

THRILLING SENSATIONAL Mexican, Cuban, Art Pictures, Books, Miscellaneous. Samples. Lists—50 cents. Jordan, 135-T Brighton St., Boston, Mass.

MOTION PICTURE PROCESSING—100 ft. 16mm., 75c; 50 ft. 16mm., 50c; 25 ft. 8/8mm., 35c; 25 ft. 8mm., 25c. Ritter Film Service, 629 Lyman Avenue, Oak Park, Ill.

MISCELLANEOUS

TRICK CHALK STUNTS. Catalog 10c. Balda Chalk Talks, Oshkosh, Wis.

THRILLING ART PICTURES, novelties, books. Big assortment with list \$1.00. Edward Gross, Dept. M, Carnegie, Pa.

CAMERAS AND EQUIPMENT WANTED

WANTED—Contax or Leica or complete outfit. H. Fraser, 748 Trinity Ave., Bronx, N. Y.

WANTED—Kine Exakta or other fine reflex camera in good condition. Arthur Rich, 645 West End Avenue, Apt. 5F, N. Y.

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GADGETS, KINKS AND SHORT CUTS

We pay from \$1 to \$5 for any Gadget, Kink, or Short Cut accepted by this column.

Exposure Meter Adjustment With Two Films

HAVE YOU EVER gone on a photographic trip with two cameras, one loaded with Kodachrome and the other with Panatomic-X and struggled with your Weston meter, setting it first at the rating for the Kodachrome and then at the rating for Panatomic-X and ended up using a Panatomic-X exposure for your Kodachrome? If you have, you will appreciate the following method of fixing your meter, so you can use it for either type of film.

Assume that you are using Kodachrome with a Weston rating of 8 and Panatomic-X with a rating of 24. Make an arrow-shaped piece of adhesive tape and attach it to the top dial of your meter five spaces to the left of the Normal arrow. This can be done by setting the Normal arrow at a light reading of 200 and placing the adhesive arrow so that it points at the space to the right of 50. Mark the adhesive arrow "Pan-X" and you are all ready to go.

Set the Emulsion Speed dial at 8 and proceed in the usual manner when using Kodachrome. To use your meter for Panatomic-X, leave the Emulsion Speed dial set at 8 and set the new arrow marked "Pan-X" to the light reading you obtain and read the aperture opposite the shutter speed as usual.

For a definite example, assume that your light reading is 200. Setting the Normal arrow at 200 gives an aperture of $f/6.3$ at $1/50$ sec. for use with Kodachrome, and setting the "Pan-X" arrow at 200 gives $f/11$ at $1/50$ sec. for use with the Panatomic-X, with no lost motion or fiddling with the Emulsion Speed dial.

This can be carried further by adding other arrows properly marked in contrasting colors for use with other film speeds, by setting the new arrow to the left of the Normal arrow on the top dial the same number of spaces that the new film is to the right of the base film speed on the Emulsion Speed dial.—C. S. Pineo.

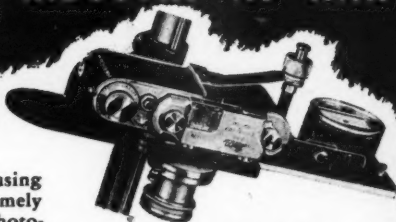
Envelope Corners Make Photo Mailers

WITH RUBBER BANDS ALMOST A THING OF THE PAST it becomes a problem to protect photos when mailing. When sending photos to magazine, newspapers, and contests it is of utmost importance that they arrive in good condition without bent corners, etc. The illustration shows an easy way to prevent

Leica

The Copying Attachment, with Leica Camera, attached to an enlarger upright.

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THE LEICA with the Sliding Focusing Copying Attachment is an extremely versatile unit for close-up and copy photography. It permits pictures to be made from infinity down to 2 inches or less from the object. Industry is using this equipment to make extreme close-up photos to reveal detail which is not normally visible. And it is also employed for microfilming—making 35mm copies of drawings, office records, etc., for preservation and convenience in storage. The Sliding Focusing Copying Attachment is but one of the many Leica accessories made by Leica American Craftsmen.

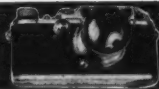
Leica Service and Repair Departments functioning as usual. Write to Dept. M-8 for information on all Leica products.

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this damage to prints in the mails. As shown, cut the four corners from an ordinary envelope after first gluing down the flap. Place a small amount of paste in each corner of the corrugated stiffener board and slide the corners on. The paste will hold them and at the same time hold the pictures squarely on the board to prevent bent corners. Using two pieces of corrugated board will insure safety.—*J. J. Gerard.*

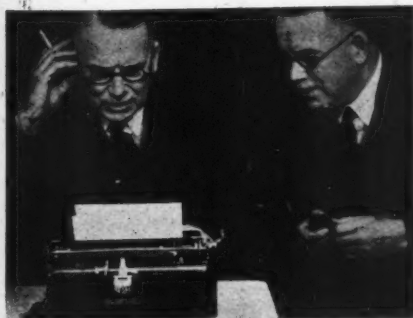


Double Exposures on Purpose

DOUBLE EXPOSURE PHOTOGRAPHY will amaze many of your friends, and they will enjoy seeing themselves apparently doing two different things at the same time.

Popularized by the movies, this can be accomplished by the amateur without extra apparatus. The only necessary item is a plain dark wall or unwrinkled black-out curtain. Place the subject two feet in front of the background and make two exposures on the same frame of him cutting his own hair, or playing checkers with himself. See how close you can pose him first to the right, then to the left of the same frame so that the main body of the subject doesn't overlap.

Use a tripod or some other means of support so as not to move the camera. A light above the subject's head will bring out detail against the dark background.—*W. W. Wright.*



KALART announces TWO NEW PRECISION PRODUCTS

available on suitable priorities

Deluxe Model "E" RANGE FINDER

The new Kalart Deluxe Model "E-I" Lens-Coupled Range Finder incorporates all the features of the famous Kalart Model "E" plus war-developed improvements. It was designed by Kalart engineers to answer the need of the Army and Navy for rugged equipment. Camera fans everywhere will like the new features of this model.

The "E-I" has a new die-cast housing which envelopes and protects the range finder mechanism from shocks. No encircling bracket is necessary—a standard slide provides for quick attachment of flash synchronizers. External screw makes adjustment for side image easy. Accessory eye-tube extension aids focusing. Opening on top permits easy attachment of Focuspot.

KALART FOCUSPOT

This new device, used in conjunction with the Deluxe Model "E-I" Range Finder, makes automatic focusing easy in total darkness or under adverse light conditions. It is available in three combinations.

Focuspot takes over when the light becomes too dim for the Range Finder or other focusing means—works up to 50 feet in total darkness—allows you to focus your camera at waist level, at any level. When the Focuspot is switched on, a beam of light is thrown through the Range Finder. This light is split in two by the mirrors and the two beams are projected on the subject to be photographed. The focusing knob of the camera is turned in the usual way. When the two light beams are superimposed on the subject, your picture is in sharp focus.

We will be glad to send full information and prices on Kalart products, although they are available at the present time only to essential users on suitable priorities.

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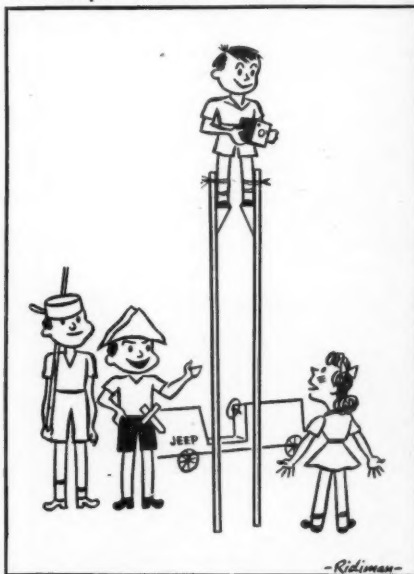
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Recorder for Film Developing

IT IS IMPORTANT to keep an accurate count of the number of rolls developed in a batch of developer so that it may be replenished or the developing time may be increased accurately. The illustrated device consisting of a turning collar with numerals and a sta-



tionary arrow serves this purpose. The collar, with handwritten or type numerals, is attached loosely so it may turn easily—but not freely enough that it may be shifted accidentally. After developing a roll of film, the indicating collar is turned to the next number as designated by the arrow mounted above. To prevent spilled liquid from spoiling the lettering, the collar and arrow should be given a coat of clear lacquer or varnish.—A. M. Lavish.



"Wilburt is our aerial photographer."

OUT OF THE LAB



By RALPH HABURTON

More than half of warm weather troubles can be avoided by using a hardener between the developer and the fixer. Retardation, frilling, and most of the other afflictions of gelatin vanish when this precaution is taken. A simple formula is:

Chrome Alum..... 1 ounce
Water 32 ounces

If you don't have chrome alum, go directly from developer to fixer without a water rinse. A rinse is usually necessary only when a carbonate developer is used.

The tenets of the f/64 Club are not applicable to enlarging. You may stop down one, or at the most, two stops to compensate for errors in focusing, but there is no need for depth of field when enlarging. Your lens, if it's any good at all, will give sharper prints in this manner than if used at the smallest stop. If your enlarger focuses so that the prints are sharp at the edges and fuzzy in the middle, or vice versa, there is something wrong with the lens. If one edge is sharp, while the other isn't, the enlarger is not truly aligned, and an adjustment is clearly indicated. Ordinarily, a larger aperture will minimize unevenness of illumination, flaws in condensers and dust specks.

We are prone to overlook one of our most important photographic chemicals. It is found in almost all formulas—and there is no substitute for water. In many localities tap water is safe for most solutions, but never for all. The safest course is to use distilled water, and remember, there is nothing the matter with rain water. Fixing baths are usually less affected than developers, since developers must be unstable in character to function.



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Tessar F2.7, 5 c/m Focusing Mount.....	45.00
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We thought twice before digging into our dwindling trove of photoflash bulbs and yearned for some way to make one bulb take two pictures. We have found that way. Set up two cameras, side by side, and plug the tripper of the second camera into the extension flash outlet of the first, so that both shutters are tripped simultaneously. A booster battery can be added by plugging it into the focal plane outlet. If this is done, a switch in the booster battery line must be used instead of the regular switch. (The extra battery is not necessary for some trippers.) If the booster is used, the polarity must be correct, and this can be checked by operating the trippers without bulbs and, if necessary, reversing the booster battery plug. Using this rig you can get almost identical, or varying negatives, depending on the camera positions and adjustments.

We are accustomed to notches in cut film but not in 35mm film. If you have ever forgotten which film you loaded in an old cartridge you should be susceptible to the idea of putting identifying notches in the leader. A simple code of one, two or three notches will do the trick and is faster than pencil marking. Another trick for reloading is to measure off twenty exposures by measuring from the tip of your nose to the end of your arm. We can't guarantee exactly twenty frames on the nose, but it should be close enough, unless you are another Cyrano.

Darkroom bottles can easily be identified for touch as well as sight, thereby eliminating the possibility of exasperating errors. Adhesive tape around the neck of hypo bottles, for instance, provides positive identification. The simplest method is to use a different type of bottle for each type of solution, consistently.

You'll speed up washing with two or three quick changes before starting on your regular washing procedure. This applies to both prints and negatives. It's a good idea to hold cut films and prints under the faucet for about a minute before putting them in the washing tray or tank. This routine will remove more than half the hypo. The permanence of your pictures depends upon thoroughness in washing.

CAMERA CLUB

NEWS AND IDEAS

By GASTON VAN

THE ROYAL PHOTOGRAPHIC ASSOCIATION, has admitted the following members to Associateship: Alexander H. Aronson, New Jersey; Allen R. Greenleaf, Binghamton; Clarence Thomas Baker, Oklahoma City; Leonard K. Rosinger, Atlanta; Louis Schuck, New York City, and Dorothy DeLain Wagner, Freeport, Ill. Fellowships to: Axel Bahsen, Yellow Springs, Ohio, and Chas. Franklin Snow, Colorado.

PERCIVAL WILDE, the mystery writer, and Aerosol expert, reports: "I ran into John Hutchins and his newly acquired monkey, "Heathcliffe," at the N. Y. C. C. recently. Heathcliffe had John on a leash. We are discussing a subscription to buy them a hand-organ.

TO THE UNHAPPY SOULS, who sent prints to the SEATTLE INTER-NATIONAL, that weren't hung, we suggest you send for a copy of the WASHINGTON COUNCIL of C. C.'s BULLETIN (June, 1943, issue). Due to lack of space here, we can't begin to relate the interesting reports on the above exhibit. Suggest you enclose at least a couple of 3c stamps, to cover handling. Address: Geo. L. Kinkade, Ed., 103 L St., S. E., Auburn, Wash. (We are in sympathy with you, George, it has been my lot for the past three exhibits here in Chicago, to have my print hung either above, below, or alongside of a nude. It never entered my mind to bring suit, because so far, it was always a good nude.)

TRIPOD C. C. of Brooklyn, N. Y., held their Ninth Annual Exhibition of Photographs by members of Mr. Lootens 1942-43 photography classes.

THE DECATUR C. C., of Illinois, has what we think is something new in programs. They recently decided that there was no reason why members should not be paid for their efforts in presenting programs, just as visiting speakers are paid—so they will receive a fixed amount as a guarantee, plus expenses for materials used. To that we add amen. (We have noticed time and again, that a member conducting a program, does not even receive the courtesy of his fellow-members undivided attention, much less being paid.)

OUR CONGRATULATIONS TO: Carl E. Brown of the Western Electric C. C. of Indianapolis, on his award of the "Watson" trophy. Mr. Brown during the past year has been photographing service men, and their families.

HOPE THE FOOTHILL C. C. of Pasadena, Calif., had no trouble with those hay burners on their horse and buggy jaunt to Laguna.

RETIRING PREXY Bill Von Behren received his ex-President pin and a membership in the P. S. A. A worthwhile award we think, and something for other clubs to consider.

SEEMS LIKE THE ATLANTA C. C. swears by, not at, their print critic, Leo (A.R.P.S.)

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3 1/4x4 1/4 ANY. SPEED GRAPHIC with lens in shutter, new.	79.50
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CINE KODAK B, f1.9 K.A., excellent.	89.50
B&H MODEL 70, f3.5 T.H.C., good.	49.50
B&H AUTOLOAD SPEEDSTER, f2.7, case, new.	138.00
VICTOR V TURNEY, f2.7 Wollensak, new	139.00
BOLEX H18, 1" f2.7 Wollensak, i.n.	195.00
CINE PERFEK 8, f2.5 Woll., case, new	38.50
KEYSTONE 99, f2.5 Wollensak, new.	77.50
KEYSTONE KS, f2.5 Wollensak, new.	41.50
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ARGOSTAT, 35mm Enlarger, Condensers, like new	39.50
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Skvirsky. We like their practice of awarding a print, by one of their many "Who's Who" members, as a door prize at their first meeting of each month.

CLUB IDEAS: Clubs in remote sections, will do well to contact Vic Goertzen, former president and charter member of the Magic Valley C. C., at 265 Addison Ave., Twin Falls, Idaho, for information on the "Print of the Week" project. Seems that this type of competition is beneficial to both contributors, and the clubs sponsoring it.

PICTORIAL PHOTOGRAPHY'S ANGEL? Chas. S. (F.R.P.S.) Martz in his recent "Salon Letter," explains a possible market, for those duplicate salon prints you may have. Says he, "Many strange plans and ideas, built around and upon salon photography have sprouted, bloomed and wilted under the Tasopé roof." Comes now this new one, and we believe it is worth a trial. For full information, write to: The Tasopé Co., Chas. S. Martz, F. R. P. S., Aurora, Mo.

BEGINNING WITH the September issue we will award one year's subscription to what we consider the three best items submitted for this column. They will be awarded as follows:

One for Humor (something personal about one of your "Who's Who" members).

One for the Best Program Idea (must be original).

One for the Best Club News Item of general interest to other clubs.

Awards will be made 30 days after publication of the winning item, providing the same item does not appear, either whole or in part, in any photo magazine prior to that time. Come on, let the rest of the country know what your club and members are doing.

A HORSE ON JOHSON. H. J. (Me-hi-co) Johson, Hawthorne C. C., does all his photo finishing in the family bathroom. One evening while some 16x20's were washing in the bathtub, the Mrs. looked in and exclaimed, "some day I expect to find a horse in the tub." Whereupon Hubert replied, "in that case, just pull the plug out."

PACIFIER? Upon the recent retirement of Prexy R. L. Mahon from the C. A. C. C. A. chair, he was presented with a wooden salad bowl set, etc. The retiring Board Members chipped in for the gift, and decided on the above as a reward to his photo widow for the loss of her husband's company during the past season. (How's that, Stan Katcher?)

A NEW VERSION OF THAT OLD ROPE TRIP. H. Lou Gibson of Rochester, N. Y., has a lulu in (June P. S. A. Journal) with his "Indian rope trick" picture. By projecting his negative upside down, he has a spider standing on the end of his thread.

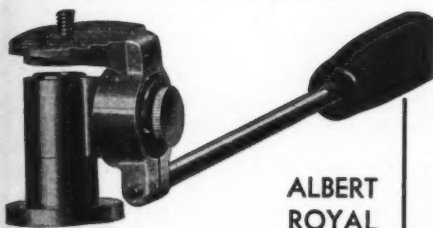
A FEELER. Should the customary four prints per entry in Salons be changed to two? Shall the \$1.00 fee be changed to 50c per entry? The consensus of opinion of your group, and yourself, is of interest to J. P. (A. R. P. S.) Krimke, MINICAM, and myself. Please let me hear from you.

A Club Print Competition

FOR THE CENTRAL UNITED STATES.

A new club print competition, under the auspices of the Chicago Area Camera Club Association, starts this early fall. Deadline for first entry, September 30. Three contest months, September, January and May. Entry fee of \$3.50 will cover the three contests. Each competing club to enter four prints each contest month. Two classes, I and II. Any club having four or more members who are listed either in the American Annual or the P. S. A. Journal will be considered in Class I. All others may compete in Class II. Three Judges, using the numerical system, will score each print, from 2 to 10 points. Clubs will be scored through the three contest months. Awards will include a certificate to the winning club each contest month in both divisions. Merit Award stickers to the makers of the four best prints in each division, each contest month. Seven cups, to be awarded as follows: A cup to the first three clubs in each class scoring the highest number of points for the three contest months. A cup to the maker of the best print of the entire three contests, regardless of which class it competed in. For full information, a four-page illustrated prospectus may be had. Club Secretaries or Print Directors write to: Gaston Van, Contest Chairman, 3859 West Adams Street, Chicago, Ill.

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- 6x13 cm. Heidoscope, Tessar F:4.5 lenses, roll holder, plate magazine, case. \$267.50
- 5x7 Auto Graflex, 8 1/2" Kodak F:4.5 lens and accessories. \$125.00
- 9x12 cm. Ernemann folding Reflex, 6 1/2" Ernotar F:4.5 lens F. P. A. \$ 55.00
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- 3/4x4 1/4 Auto Graflex, Kodak F:4.5 lens and adapter \$ 62.50
- Half V. P. Ihagee Parvula, Schneider Xenon F:2 lens in Compur shutter. \$ 57.50
- 4x5 R. B. Series D. Graflex, fitted with 21 cm. Schneider Xenar F:3.5 lens, f.p.a. \$200.00

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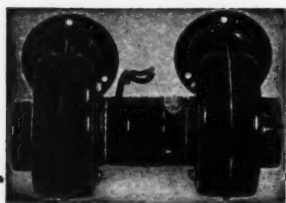


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Calling all Cameras!

By ARTHUR BRACKMAN

Managing Editor of
Free Lance Photographers Guild

WITH the draft and government agencies picking off so many of the professional photographers, the advanced amateurs are in line for cordial editorial attention if they care to make this their part-time business; or if the thrill of getting some pictures published is worth the effort.

The following three types of subjects should be avoided by the photographer interested in sales to editors and advertisers:

1. Posey pictures and pictures of purely personal interest. Shots of your Aunt Hattie and your cousin Joe staring at the camera.

2. Posey publicity pictures of purely local events. Shots of Dr. Joe Stywash addressing the local Rotarian luncheon may be hot stuff for your local gazette, but their potential value ends there. The same goes for the average local parade, the local fire drill, pictures of local personalities, and functions.

3. General commercial work. If you are doing general commercial photography, you may have the mistaken idea that the picture of Jones' Drug Store, the sign atop the Elite Ballroom, or the remodeled interior of the Prince George Hotel are saleable outside your home stamping grounds. You are wrong. Ninety-nine percent of the jobs done in ordinary commercial photography are of no interest to anyone except the person or firm who first ordered them. There are a few exceptions in the trade journal field when you have a story, backing up the picture, that shows how Bill's Store utilized the methods shown in the pic to cut costs or get more business.

THE essence of stock photography is universality. By universality I mean the quality which would make the picture typical of the same situation elsewhere. Thus, a picture of a crowd of faces, a picture of a drum-major strutting, of a miner at work, of a child studying—these are universal. If properly taken, they may be used by editors months or years from now to portray, in a symbolic way, the same common acts of everyday living anywhere in the United States.

Another essential of saleable photography is simplicity. The most frequent photographic crime is that of cluttering up a picture with dozens of irrelevant details. Your picture of a drum-major should concentrate on the drum-major, with everything else subordinated in the background.

Large masses, predominance of a single effect, are essentials of good saleable pictures.

Now, as to releases. A signed release should be obtained wherever possible. Pictures not so released are limited in their earning power; a good picture of an individual or several individuals may bring as high as several hundred dollars for one use in advertising; if the picture is not released, it is unlikely to bring more than ten to twenty-five dollars for any single use. Below is a release from which any photographer can have copied on carbons on a typewriter, or mimeographed. Usually, the people shown will gladly sign a release in exchange for an extra free print or two, but the release must be obtained at the time of taking pictures; if the same people are approached much later, when you have a chance to sell the picture, they may request fabulous amounts for the same release.

Date _____

"For valuable consideration, I hereby grant photographer _____ Your Name

or his successors or assigns, the right to reproduce any of my photographs at any time or place hereafter without any further consideration to me, in any news, editorial, pictorial, trade or commercial manner, with or without the use of my name attached thereto, at the photographer's or his successors' or assigns' option.

"It being my intention to give the above named photographer, or his successors or assigns, a full and complete waiver of any claims for rights of privacy or otherwise.

"I agree that I will not attempt to bring or threaten any action or proceeding if and when any of my pictures are used or reproduced. I also authorize the above-mentioned firm or photographer to transfer to others the right to the use of my pictures.

"I certify, knowing that the photographer relies thereon, and to induce him to take or attempt to exploit my pictures, that I am over twenty-one years of age.

Dated: _____

If subject is under 21, this release must be signed by parent or guardian in space below.

"As parent or guardian of the above named persons I hereby consent to the foregoing."

Witness _____

Signed _____

The subject matter for saleable stock pictures

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is endless in variety, and the subjects listed below are offered merely by way of suggestion.

Basically, any good sharp, well-taken photograph of any every day situation will eventually sell provided it does not fall within one of the three taboos listed at the beginning of this column.

Here are some typical highly saleable stock picture subjects:

Girls engaged in all sports, especially tennis, golf, basketball, baseball, hockey, swimming, diving, ping pong or badminton.

Mothers and children. Mothers performing all usual tasks; bathing, diapering, dressing babies, taking kids for airing in baby carriages, tucking kids into bed.

Children saying prayers, playing indoors and out, artistic shots of children against field and sky background, close-ups of attractive kids smiling, crying, laughing, faces puckered, sucking toes, drinking from bottle, playing with toys.

Facial expressions: shots of men, women, and children of all ages, portraying various emotions—joy, sadness, disappointment, fright, anger, hate, love, dejection, etc.

Stores. Clerk selling something to customer, customer handing clerk money, clerk taking order over telephone, wrapping up package as customer smiles.

People doing exercises. Farmers plowing, hoeing, etc. Office shots showing secretaries, stenographers, filing clerks, executives performing typical jobs. (Close-ups always.)

Tokyo Bombing Available From Castle

AFTER ONE YEAR OF ANXIOUSLY WAITING to see how Tokyo was bombed, you may now see in your own home the Castle Film entitled "Yanks Bomb Tokyo" which shows Jimmy Doolittle's planes in the breath-taking flight from the air-craft carrier Hornet, and scenes from captured Jap films.



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Both of these films are available in 8mm. and 16mm. sizes. Castle Films, Inc., 30 Rockefeller Plaza, New York City.

All That You Can Find

(Concluded from page 25)

of a second for the Panatomic-X and a 50th of a second for the Super-XX, both with a G filter and lens stopped to f/32. From this you can see that I like sharp negatives. They are a necessity for good scenic prints.


Edward Weston, the famous scenic photographer, once invited me to look at a composition on his ground glass. It was in perfect focus and needle sharp, and ever since I have tried to make all of my negatives as sharp as possible.

I think scenic photographs with fuzzy or soft focus negatives are bastards.

True they give an effect, but an artificial one. A photographer who is a purist, for its own sweet sake, lives in a narrow cage. But nature's own moods are so variable and delicate, when caught at the propitious moment, that faking a hazy blurry lighted scene via a soft focus lens is just another way of saying that you don't recognize the real thing when you see it, or you haven't the patience. Patience is an abbreviated way of saying good photographer.

Today we all feel that the foundation beneath us is uncertain and that the headlines in next month's or even tomorrow's paper may upset our lives permanently. Very well, if that is the way it is to be, we can learn to live with it. For myself, weekly trips to make scenic pictures have brought beauty and refreshment. The man who backs his child up against a wall and snaps a shutter gets a record shot. He gives little to photography and gets little back. There is in photography all that we hope to find.

To come over a hill onto a cherry orchard like a white cloud, to try, from various angles, for the best shot—shooting up from under the rustic fence, shooting across from atop a knoll, or coming up for a close-up after noticing the rough bark which here and there has been rubbed to a ruddy sheen, to do this is to forget whatever ails him and the world and to emerge refreshed.



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I Took 50,000 Pictures

(Concluded from page 56)

fogs, storms and soft pastel misty effects. Some photographers cry about the haze they often get in the background. They are so conscious of being a photographer that they forget the aesthetic or artistic merits of their picture and consequently destroy them. If it is hazy, it is hazy—show it. If it is raining, show it. If fog, mist and weird color effects show up under certain climatic conditions, record them. Nature by itself can't be improved upon, and trying to change it is often an alibi for the photographer who can't be subtle. Everthing is already there, simply waiting to be properly used and dramatized.

Kodachromes should be paintings. Properly made by competent and imaginative photographers they are most beautiful. Made by a "camera fan" rather than a photographer, they often are as bad as some of the present day modernistic results of our artists who don't know how to draw. Raw colors alone are to my mind as useless as a flock of brassees in a string orchestra. Blending of Kodachrome color by the photographer is like listening to a good symphony orchestra. High key color can be used to advantage when proper ac-



"It's the only equipment that Edgar could pick up."

cent is placed on its relationship to the softer colors in the composition. Pictures predominantly low key in color are often the most pleasing, as in the paintings of Rembrandt, Corot or Manet. Kodachromes should not be billboards or window displays—unless they are made for just that.

Here are a few simple suggestions I would like to make to the amateur which I believe will produce good results without arguing with the "printer" when the pictures are picked up on the way home. Simplify your film, get used to certain emulsion speeds so that you can set your meter quickly and accurately. Light is flexible and can stand lots of strain, yet most bad pictures are taken carelessly and with no consideration for changing of light and shadow. If you shoot in the shade, expose for the shade, and if you shoot in the sun, expose for the sun. Half-way either right or left in side lighting should give you a good negative. Equally to blame for bad pictures with carelessness with light, is carelessness in focusing. If your camera is equipped with a vernier or visual focusing and your pictures aren't sharp, there isn't much hope for you. If your camera has marked distances, and you can't seem to guess right and consequently get poor focus and depth, it is a good idea to use medium fast film, a small stop and slow exposure (not less than 25th of a second), with distance set at infinity. This of course does not apply for close ups.



"Shall we hang it? It's only seventeen inches deep?"



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How the Axis Fights With Photos

(Continued from page 20)

ing military secrets about gun emplacements. Therefore they must have another purpose for releasing these photographs.

The caption will tell you that these fortifications are part of the Atlantic or the Arctic or any of the other walls the Germans claim to have built around their "Festung Europa"! The message they want to drive home to you is "we are strong, we are prepared, we will not be caught napping. You know what you are in for. These fortifications are formidable. Don't attack! Don't attack! Don't attack!!!"

By repeating this theme time and time again and by counting on the appetite of the American public for news, they hope today to sneak into our papers a picture of one of their guns, tomorrow a line of anti-tank ditches, the day after a company of healthy soldiers taking calisthenics on the Atlantic beaches behind a triple row of barbed wire. Their purpose is to frighten Americans into demanding a negotiated peace.

With invasion, a new propaganda attack is being tried by the Nazis. To America they say words that we, as a people, have always believed: "Live and let live." To England, they offer again the ruse that buckled Chamberlain's England: "Keep us strong as a bulwark against Russian communism." To Japan goes: "Hush, hush my sweet yellow bastards, and we shall try again." To Italy: a hurt look.

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